Accepted Abstracts

**Advanced Materials**

276. Nonlinear Variational Bounds based on Extended Hashin-Shtrikkman Principles  
Dr. Petr P. Prochazka

277. Roller Compacted Concrete Properties using High Percentage Fly Ash and High Silicafume

278. Numerical Investigation of Progressive Damage of 2D Triaxially Braided Composite in Tensile Test  
Mr. Xuetao Li ; Dr. Wieslaw K. Binienda

279. Characterization of Particulate Reinforced Aluminum Reinforced Metal Matrix Composite  
Mr. Chandra Seakher, M. Kasibhatla, Sr., Mr. R. Kali Prasad S. Krovvidi, Sr., Mr. Babu D. Puppala, Sr., Mr. Sudhakar I, M.S. ; Mr. Ravi Shankar P, B.S.

280. Fabrication and Validation of Corrugated Wire Mesh Laminate Model for Cancellous Bone  
Mr. Jeongho Choi ; Dr. Krishna Shankar

281. Assessing Service Induced Mechanical Deterioration of Aircraft Composite Materials Using Deterioration-Induced Wave Propagation  
Mr. Arnab Gupta ; Dr. John C. Duke, Jr.

282. The Drilling Induced Failure Modes in T800/924C Composite-Epoxy Laminate  
Dr. Zaffar Mohammad, PhD.

283. Prediction of Environmental Degradation of Fibre Reinforced Plastics  
Dr. Ratnam Paskaramoorthy, Mr. Etienne Ngoy ; Mr. Robert Reid

284. Shape optimization of composites for constrained minimum Lagrangian using homogenization  
Dr. Petr P. Prochazka, Dr. Vladimir Dolezel ; Dr. Kamila Weiglova

Mr. Abdalla R. Nassar, Dr. Ravindra Akarapu, Dr. Judith A. Todd ; Dr. Stephen M. Copley

286. Processing and Manipulation of the Lunar Soils for Outpost Use  
Dr. Akhter B. Hossain ; Dr. Mohammad S. Alam

287. Retrofitting Reinforced concrete Columns Using Advanced Composite Materials To Resist Earthquakes  
Mr. Mohamed O. Hassan, M.A.

288. Prediction of Carbon Fiber Properties using Artificial Neural Networks  
Mr. Varun Devaraj

**Advances in Computational Fluid Dynamics**

289. Comparison of Different Approaches to Specify Inlet Boundary Conditions for CFD Modeling in a CFB Riser  
Mr. Botao Peng, Dr. Chao Zhang ; Dr. Jingxu Zhu

**Advances in Health Monitoring and System Identification**

290. Finite Element Updating: Alternative Solutions and Their Probabilities  
Mr. Boris A. Zarate ; Dr. Juan M. Calcedo

291. Influence of Riverbed Protection on Characteristic of Bored Piles Built in Deep Water  
Mr. Song Chen, PhD., Mr. Zhijian Chen, Mr. Yong Tang, PhD. ; Miss Qing Chen, M.S.

292. A Wavelet-Based Framework for System Identification of Tall Buildings Under Transient Wind Events  
Ms. Audrey Bentz ; Dr. Tracy Kijewski-Correa, PhD.
293. Mode Shape Identification with High Spatial Resolution using Mobile Sensors  
Mr. Johannio Marulanda; Dr. Juan M. Caicedo

294. A Time-Domain Covariance-Based Parameter Estimation Method for Torsional Shear Buildings: Application to IASCASCE Benchmark Studies  
Mrs. Roshanak Omrani, Dr. Ralph E. Hudson; Dr. Ertugrul Taciroglu

295. Assessing Service Induced Mechanical Deterioration of Aircraft Composite Materials Using Distributed Optical Fiber Strain Sensing  
Mr. Douglas A. Harold; Dr. John C. Duke, Jr.

296. An enhanced algorithm for stochastic system identification of long span bridges  
Ms. Ah Lum Hong; Dr. Raimondo Betti

297. Sensitivity Study of Vibration-Based Damage Detection in Beam Structures  
Mr. Keming Wang, M.S.

298. Structural Damage Diagnosis Using Harmonic Forced Vibration and Transfer Functions Response  
Mr. Akbar Esfandiari, M.S., Dr. Masoud Sanayei, PhD., Dr. Firooz Bakhtiar-Nejad, PhD.; Dr. Alireza Rahai, PhD.

299. Structural Finite Element Model Updating Using Transfer Function Data  
Mr. Akbar Esfandiari, M.S., Dr. Masoud Sanayei, PhD., Dr. Firooz Bakhtiar-Nejad, PhD.; Dr. Alireza Rahai, PhD.

300. Detection of Degraded Stiffness from Multiple Cracks in Plate Structures with Unknown Moving Force Information  
Mr. Myung-Hyun Noh, PhD.; Dr. Taehyo Park; Dr. George Z. Voyiadjis

301. A study on the Performance evaluation of lightweight unit panel using Honeycomb Structure  
Mr. Gun Lee, M.S., Mr. Do-Heom Song, B.S., Mr. Hyun-Chul Lee, M.S.; Dr. Seong-Seok Go, PhD.

302. Wavelet-based Secondorder Blind Identification of Structures  
Mr. Budhaditya Hazra; Dr. Sriram Narasimhan, PhD.

303. Inverse Analysis of Static Data from a Real-World Type II AASHTO Girder to Identify Flexural Stiffness and Effective Prestressing Force  
Mr. Randall D. Martin, Dr. Jin-Song Pei, Dr. Thomas Kang; Mr. Colby J. Sandburg

Dr. Guirong Yan, Mr. Zachary Feinstein, Mr. Gregory Hackmann, Dr. Shirley J. Dyke; Dr. Chenyang Lu

305. NDE of Concrete Bridge Deck Delamination using Enhanced Acoustic Method  
Mr. Gang Zhang, Dr. Ronald S. Harichandran; Dr. Pradeep Ramuhalli

306. Damage Detection on a Three-Story Structure using Signal-Based Pattern Recognition  
Mr. Long Qiao, PhD., Dr. Asad Esmaeili, PhD.; Dr. Hani G. Melhem, PhD.

307. Uncertainty Quantification in Model-Based Damage Diagnosis  
Mr. Shankar Sankararaman; Dr. Sankaran Mahadevan

308. Damage Prognosis Using Nonlinear System Identification  
Mr. Giancarlo G. Bordonaro, Dr. Muhammad R. Hajj, Dr. Ali H. Nayfeh; Dr. John C. Duke

**Advances in the Treatment of Interface Problems in Mechanics**

309. Phase Field Theory and Model of Dislocation Dynamics and Networks  
Dr. Dong-Wook Lee; Dr. Marisol Koslowski
Accepted Abstracts

310. A primal interface formulation for the coupling of nonconforming meshes in the presence of large deformations
Ms. Ghadir Haikal ; Dr. Keith Hjelmstad

Biodynamics

311. Brain Tumor Simulation using a Hybrid Compartment-Continuum-Discrete Model
M.L. Tanaka, W. Debinski, I.K. Puri

312. An Integrated Procedure for Computer Simulation of Dynamics of Molecular Structures
Shanzhong (Shawn) Duan

313. Implementation of an Efficient Algorithm for Virtual Prototyping of Dynamics of Molecular Conformation
Shanzhong (Shawn) Duan and Andrew Ries

314. Finite Time Blow-Up and the Phenomena
Xi Li, Su-Xiang Shang

Biological and Biologically Inspired Materials

315. Structure Prediction and Nanomechanical Properties of Human Vimentin Intermediate Filaments
Dr. Markus J. Buehler ; Mr. Zhao Qin

316. Ductile sliding between mineral crystals followed by rupture of collagen crosslinks: experimentally supported micromechanical explanation of bone strength
Dr. Christian Hellmich, PhD., Dr. Andreas Fritsch, PhD. ; Dr. Luc Dormieux, PhD.

317. Micromechanics of bone tissue-engineering scaffolds, based on resolution error-cleared computer tomography
Dr. Christian Hellmich, PhD., Dr. Stefan Scheiner, PhD., Dr. Bernhard Pichler, PhD., Dr. Raffaele Sinibaldi, PhD., Dr. Vladimir Komlev, PhD., Dr. Franco Rustichelli, PhD., Dr. Chiara Renghini, PhD. ; Dr. Chiara Vitale, PhD.

318. Bioinspired Design of Dental Structures
Dr. Wole Soboyejo ; Dr. Nima Rahbar

319. Characterization of bone morphology and effective properties based on the spectral measure of viscoelastic operator
Mr. Carlos Bonifasi-Lista ; Dr. Elena Cherkaev

320. Mechanics Modeling of Bone at Nanostructural Level
Ms. Elham Hamed ; Dr. Iwona Jasiuk

Biological Fluid Mechanics

321. Study of Passive Rotational Motion Induced by Wing Flexibility in Dipteran Flapping Flight: Nonlinear FEM Dynamic Similarity Fluid Structure Interaction Analysis
Dr. Daisuke Ishihara, Dr. T. Horie ; Dr. Mitsunori (Mitch) Denda, PhD.

322. Modeling targeted delivery of nanoparticles under vascular flow
Dr. Yaling Liu ; Mr. Samar Shah

Biomaterials

323. Fibrin networks in blood clots sustain large extensions due to protein unfolding
Dr. Prashant K. Purohit, PhD.

324. The molecular structure of wood primary cell wall
Miss Ying Wang ; Dr. Youping Chen

325. Cell-biomaterial interactions under physiological flow conditions
Dr. Sameer R. Jadhav, PhD. ; Mr. Rahul Bhardwaj

Biomechanics

326. Random Fiber Networks Are Stochastic Fractal Objects
Mr. Hamed Hatami-Marbini ; Dr. Catalin Picu

327. A Mechanism for Atherosclerotic Plaque Rupture by Particulate/Matrix Interfacial Decohesion
Mr. Chien M. Nguyen ; Dr. Alan J. Levy

328. A New Indentation-Based Creep Test for Multi-scale Mechanical Characterization of Biological Membranes
Dr. Kuo-Kang Liu, Dr. Mark Ahrearne ; Dr. Kai-Tak Wan

329. Structural Changes in Ligaments and Tendons during Hysteresis, Creep, and Relaxation
Miss Ratchada Sopakayang, M.S. ; Dr. Raffaella De Vita, PhD.

330. Hyperelastic Contact Models for the Indentation of Cells and Extracellular Matrix
Dr. David C. Lin, Dr. Emilio K. Dimitriadis, Dr. David I. Shreiber ; Dr. Ferenc Horkay

331. Biomechanical Analysis of the Accommodation Process of Human Eyes
Dr. James D. Lee, Mr. James Chen ; Dr. Olivia L. Lee

332. Biorheology of Red Blood Cells via Dissipative Particle Dynamics
Dr. Igor V. Pivkin, Mr. David J. Quinn, Dr. Ming Dao, Dr. George E. Karniadakis ; Dr. Subra Suresh

333. Matrix Rigidity Mediates Growth Factor Response During 3D Endothelial Cell Sprouting
Mr. Amir Shamloo ; Dr. Sarah C. Heilshorn

334. Dynamic mechanical response of kidney tissue under compression: Strain-rate effect
Dr. Weinong W. Chen, PhD. ; Mrs. Farhana Pervin, PhD.

335. 3D In-vivo Geometric Characterization of the Ovine Pulmonary Trunk
Ms. Bahar Fata, M.S.

336. Unfolding of DNA and proteins under axial loading: an interface propagation approach
Mr. Ritwik Raj ; Dr. Prashant K. Purohit

337. Guiding Principles of Nanoparticle Uptake by Biological Cells
Dr. sulin Zhang, Mr. Hongyan Yuan, Dr. Ju Li, Dr. George Lykotrafitis, Dr. Gang Bao ; Dr. Subra Suresh

338. A Constitutive Law Characterizing the Material Response of Insect Tracheae
Ms. Frances M. Davis, Dr. Raffaella De Vita ; Dr. Jake Socha

Coastal Hydrodynamics

339. Interaction of Storm Surge and Hurricane Waves: Modeling and Measurements
Dr. Kelin Hu, PhD., Dr. Qin Chen, PhD. ; Dr. Andrew Kennedy, PhD.
340. Modeling Sediment Resuspension and Transport induced by Storm Wind in Apalachicola Bay
   Mr. Xiaohai Liu

341. Effect of turbulence models on numerical simulation of wave breaking and run-up on a mild slope
   Mr. Hong Xiao

342. Interaction of a Solitary Wave with a Floating Body
   Dr. K. H. Wang, Miss Xing Lu ; Mr. Ted Chu

343. A Parametric Study of Meteorological Forcing in Storm Surge Modeling: A Case Study in Coastal Mississippi
   Dr. Himangshu S. Das

Computational Modeling and Remodeling of Biological Tissues in Physiological and Pathophysiological Conditions

344. Elucidating Soft Tissue Remodeling Utilizing a Structural Constitutive Model - Application to the urinary bladder wall
   Ms. Silvia Wognum ; Dr. Michael S. Sacks

345. A Method to Determine the Shear Elastic Modulus in a Linearly Elastic and Incompressible Solid
   Mr. Adair R. Aguiar, PhD. ; Mr. Edmar T. Prado, M.S.

Computational Methods for Modeling and Quantification of Structural Flaws

346. Fatigue Failures of Welded Piping Joints: Experiments and Simulations
   Dr. Pei-Yuan Cheng ; Dr. Tasnim Hassan

   Mr. Behnam Salimi ; Dr. David R. Hayhurst, PhD.

348. Detection and Quantification of Flaws in Structures by the Extended Finite Element Method and Genetic Algorithms
   Dr. Haim Waisman, Ms. Eleni Chatzi ; Dr. Andrew W. Smyth

349. An optimally convergent discontinuous-Galerkin-based extended finite element method for fracture mechanics
   Mr. Yongxing Shen, PhD. ; Mr. Adrian J. Lew, PhD.

   Mr. Joseph Wright ; Dr. Jin-Song Pei

351. Interactions of multiple inhomogeneous inclusions in a half space: method and application
   Dr. Kun Zhou, Dr. Leon M. Keer ; Dr. Q. Jane Wang

352. Topology optimization of continuum structures considering fabrication flaws
   Mr. Alireza Asadpoure, Dr. James K. Guest ; Dr. Takeru Igusa
Dynamical Systems

353. On controllability of structures with closely spaced natural frequencies based on perturbation analysis
Mr. faxiang XIE ; Dr. Limin SUN, PhD.

354. Polynomial Chaos Expansions for Stochastic Optimal Control of Duffing Oscillators
Mr. yongbo peng, Dr. Roger Ghanem ; Dr. Jie Li

355. Development of a Real-time Hybrid Testing System
Mr. Xiuyu Gao, Dr. Shirley J. Dyke, Mr. Terry Tidwell, Mr. Huang-Ming Huang, Dr. Chenyang Lu ; Dr. Christopher D. Gill

356. A Multibody Dynamics Approach for Modal and Vibration Analysis of Wind Turbine
Dr. Shanzhong (Shawn) Duan

357. Decentralized Control of Large-Scale Web Winding Systems
Dr. Wankun zhou, PhD.

358. Dynamic Soil Structure Interaction for Elastic Foundations in Coupled Translational and Rocking motion
Mr. Shahin Nayyeri, PhD. ; Mr. Khosrow Ebrahimi, PhD.

359. A numerical method for integrating stochastic differential equations with Poisson and Levy white noise
Dr. Mircea Grigoriu

360. Modeling of Eddy Current Damping due to a Permanent Magnet considering the Induced Magnetic Flux
Dr. Jae-Sung Bae, PhD., Dr. Jai-Hyuk Hwang, PhD. ; Mr. Jung-Sam Park

Dynamics

361. External force configuration effects on sound radiation of thick infinite plate
Dr. Seyyed Mohammad Hasheminejad ; Mr. Mohsen Mohammadali, M.A.

362. Vibration and Snap-Through of Bent Elastic Strips Subjected to End Rotations
Dr. Lawrence N. Virgin ; Dr. Raymond H. Plaut

363. An Unconditionally Stable Explicit Integration Algorithm with Controllable Numerical Damping
Dr. Cheng Chen ; Dr. James Ricles

364. Optimal design of structural vibration based on stochastic finite element
Mr. Mo Wenhui Mo Wenhui

365. Optimal design of a simple supported one-way RC slab against blast loads based on the energy approach
Mr. Wenbin Sun, PhD.

366. Response of Reinforced Concrete Simple Supported members to Blast Loads
Mr. Wenbin Sun, PhD.

367. Analytical Solutions to the Strain Rates in Reinforced Concrete Simply Supported Flexural Members to Blast Loads
Mr. Wenbin Sun, PhD.
368. New finite elements for vibration analysis of cracked members

369. A New Formulation for Rotational Dynamics
   Dr. Firdaus Udwadia; Dr. Aaron D. Schutte

370. Large-eddy simulations of sedimentation process and particle dynamics in a longitudinal sedimentation basin of a water treatment plant
   Mr. Mustafa Al-Sammarraee, Dr. Andrew Chan, Mr. Salim Mohamed Salim; Dr. Phei Li Lau

371. Simulation of Non-Stationary Random Processes with Time and Frequency Modulation for Seismic Ground Motion Applications
   Mr. Michael D. Shields; Dr. George Deodatis

372. Probabilistic Framework for Condition Assessment
   Dr. byounghoan choi

373. Dynamic Compaction of Porous Materials produced by a Shock Wave
   Mr. Weimin Nian; Mr. Kolluru V. Subramaniam

374. Hybrid modeling of hysteretic nonlinear system based on neural network
   Dr. Xie Shilin; Dr. Zhang Xinong

375. Shape control of thin shell under thermal stress using laminated piezoelectric actuators
   Mr. Yu Yang, M.S.; Dr. Zhang Xinong; Dr. Xie Shilin

376. Mixed Perfectly-Matched-Layers for Direct Transient Analysis
   Mr. Sezgin Kucukcoban; Dr. Loukas F. Kallivokas

   Miss HONG SU; Dr. Jennifer Righman McConnell

378. Transfer Matrix Method for Dynamic Analysis of Rotor Systems with Coupled Support Stiffnesses
   Mr. Keming Wang, M.S.

379. Dynamic performance of long-span bridge under different traffic conditions
   Ms. Jun Wu; Dr. Suren Chen

380. Multibody Computational Model for Force and Motion Analysis of Shoulder-Upper Arm Complex
   Dr. Shanzhong (Shawn) Duan

381. On the reconstruction of the soil's shear wave velocity profile
   Mr. Jun Won Kang, Dr. Loukas Kallivokas, PhD.; Mr. Kwang-Soo Park; Dr. Kenneth H. Stokoe

382. Prediction of Dynamic Response of Stiffened Rectangular Plates using Hybrid Formulation
   Mr. Shahin Nayyeri, PhD.; Dr. Asad Esmaeily, PhD.

383. Stresses in Thin, Multi-Layer Pipes in large Radial Vibrations
   Mr. Shahin Nayyeri, PhD.; Dr. Asad Esmaeily, PhD.

384. Seismic Analysis and design of Elevated Water Tanks

**Environmental Fluid Mechanics**

385. Velocity Measurements in the Meander Bend of a River
   Mr. John E. Petrie, Dr. Panayiotis Diplas, Dr. Marte Gutierrez; Mr. Soonkie Nam

386. Simulation of small scale river morphodynamics using Discrete Particle Models
Accepted Abstracts

Mr. Manousos Valyrakis, Dr. Panos Diplas, Dr. Clinton Dancey; Mr. Ahmet O. Celik

Experimental Methods in Fluid Mechanics

387. Investigation of turbulent structures in open channel flow using proper orthogonal decomposition (POD)
Mrs. Vesselina Roussinova, M.S.; Dr. Ram Balachandar, PhD.

388. Turbulent structures in turbulent round jet: effect of the Reynolds number
Dr. Ram Balachandar, PhD.; Mrs. Vesselina Roussinova, M.S.

389. Swirling strength based identification of vortices in shallow wake
Mr. Arindam Singha; Dr. Ram Balachandar, PhD.

390. Mechanical and Optimization Analyses for Novel Wound Composite Axial Impeller
Mr. Jifeng Wang, PhD., Dr. Norbert Mueller, Mr. Qubo Li, PhD.; Mr. Lindberg Bruce, M.S.

Fluid Mechanics

391. Wave Propagation and Induced Steady Streaming in Viscous Fluid Contained in a Prestressed Viscoelastic Tube
Mr. Ye Ma; Dr. Chiu-On Ng

392. Modeling and simulation of fluid flow in investment casting
Mr. Muhammad Musaddique Ali Rafique, Ms. Fariha Javaid, Mr. Zeeshan Javaid; Dr. Hans Wittich

393. Solution of Pipe Network with Conjugate Gradient Method
Mr. Engin Mendi, M.S.

394. Numerical Study of Erosion-proof of Loose Sand in an Overtopped Plunging Scour Process
Dr. Ge Wang

395. Vortex Breakdown in Axial Swirled Flow through a Vertical Tube
Dr. Mohammed H. Said Aly, PhD.

396. PIV Measurements and Physical Factors of Dual Synthetic Jets Interactions
Dr. zhen-bing luo, Dr. zh-xun xia; Mr. lin wang

397. Flow of non-homogenous incompressible fluids
Dr. Suman K. Hajra; Dr. Mehrdad Massoudi

398. Coherent structures in flow through emergent vegetation using boroscopic particle image velocimetry
Dr. Scott A. Socolofsky, PhD., Ms. Kerri A. Whilden, Mr. Duncan B. Bryant, Mr. John Bandas; Ms. Autumn Kidwell

399. Laboratory Generation of Solitary Waves
Mr. Siamak Malek-Mohammadi, M.S.; Dr. Firat Y. Testik, PhD.

400. Experimental Analysis of Similarity in Velocity Profile of Salt Solution Density Current
Mr. Esmaeil Safaei, PhD., Mr. vahid hatamipour, M.S.; Dr. Bahar Firoozabadi
401. Topological chaos in wide lid-driven cavities and wide microchannels
   Dr. Jie Chen, PhD.; Dr. Mark A. Stremler, PhD.

402. An Efficient Model and Algorithm for Physiological Fluid Dynamics
   Mr. Omer San; Dr. Anne E. Staples

403. Experimental investigation of junction flow around a cylinder using PIV measurements
   Mr. Nikolaos Apsilidis, Mr. Samuel G. Raben, Dr. Panayiotis Diplas, Dr. Clinton L. Dancey; Dr. Pavlos Vlachos

404. Threshold of sediment movement under turbulent flow conditions
   Mr. Ahmet O. Celik, Dr. Panos Diplas, Dr. Clint Dancey; Mr. Manos Valyrakis

405. On Vortex Equilibria in Bounded Circular Domain
   Dr. George Chamoun; Dr. Mark Stremler

406. A mathematical model of the 2P mode vortex wake
   Mr. Alireza Salmanzadeh Dozdabi; Dr. Mark A. Stremler

407. Mixing Viscous Fluids Using n-Rod Systems
   Mr. Mohsen Gheisarieha; Dr. Mark A. Stremler

408. Pressure drop of Fractal-Shaped Orifices in Turbulent pipe Flows
   Dr. Ahmed M. Abou El-Azm Aly; Dr. Frank Nicolleau

409. Study on Effect of Seepage on Rough Open Channel Flow through Proper Orthogonal Decomposition (POD)
   Mr. Abdullah Faruque, M.S., Mr. Arindam Singha, M.S., Mr. Tian Jiahao, B.S.; Dr. Ram Balachandar, PhD.

410. Purging of Negatively Buoyant Tracer from Rectangular Cavities in Oscillating Grid Turbulence

411. A Library of Turbulence Closure Schemes
   Dr. Gaurav Savant

412. Wave Propagation Prediction in Homogeneous Materials Using Hybrid Lattice Particle Modeling
   Mr. Ge Wang, Dr. A. Al-Ostaz, Dr. A.H.-D. Cheng; Dr. P. R. Mantena

413. (WITHDRAWN) A Numerical study of a two blade Savonius Wind Turbine with the help of Computational Fluid Dynamics.
   Mr. Joy Pathak

414. Gust Effects on Flow and Pressure Distribution over a Cylinder
   Mr. Mehdi Ghommem, Dr. Imran Akhtar, Dr. Muhammad R. Hajj; Dr. Ishwar K. Puri

415. Linear Stability Analysis of Modified Taylor-Couette Flow
   Mr. Yasser Aboelkassem, M.S.; Dr. Anne E. Staples, PhD.

416. Aerodynamic Performance of Stepped Airfoil
   Dr. Masoud Boroomand; Mr. Shirzad Hosseinverdi

Fluid-Structure Interaction

417. The parallelized finite element method for nearly incompressible and impermeable porous media
   Mr. Moonho Tak, PhD., Dr. Taehyo Park; Dr. George Z. Voyiadjis

418. Slamming impact of rigid and sandwich composite hulls
   Mr. Kaushik Das; Dr. Romesh C. Batra
419. Finite Element Analysis of Pulse Wave Velocity in Stented Arteries  
Mr. Daniel B. Cooper ; Dr. Pavlos P. Vlachos

Geomechanics and Elasticity

420. Finite Element Analysis of Soil Under Explosive Loading  
Mr. Garrett H. Sutley ; Dr. Richard Regueiro

421. Study of the Soil-Structure-Pore Water Interaction of the Breached Levee System at the 17th Street Canal of New Orleans  
Dr. Jay Wang ; Mr. Mark Castay

422. Shakedown of Pavements under Moving Surface Loads: Revisited  
Dr. Jidong Zhao, PhD.

423. Liquefaction Earthquake Site Response Analysis Of Layered Soil Deposits Using Viscoplasticity Models  
Miss Thao Nguyen Huynh Huu, M.S.

424. Flow of Granular Materials in a Rotating Cylinder  
Dr. Suman K. Hajra ; Dr. Mehrdad Massoudi

425. Numerical Simulation Of Liquefaction Effects To Structures Subjected To Earthquake  
Miss Thao Nguyen Huynh Huu, M.S.

426. Two-Dimensional Approximation to Static Three-Dimensional Elasto-Plastic Soil-Pile Interaction Problem  
Dr. Annalingam (Rajah) Anandarajah, PhD.

427. Use of elastodynamic reciprocity for the analysis of point-load generated surface waves in an inhomogeneous transversely isotropic half-space  
Dr. Anil C. Wijeyewickrema, PhD., Mr. Takatsugu Konno ; Miss Priza Kayestha

428. An Analytic Elastic Solution for a Multi-Layered Soil on a Buried Thrust Fault  
Dr. Kam Tim Chau, PhD.

429. A New Rheological Soil Model For Liquefaction Analysis  
Miss Thao Nguyen Huynh Huu, M.S.

430. Three Dimensional Discrete Element Modeling of Undrained Cyclic Response of Granular Media  
Mr. Behrooz Ferdowsi, M.S., Dr. Abbas Sorouch, PhD. ; Dr. Roozbeh Shafipour, PhD.

431. Torpedo Anchors in Soil: CFD and FE Simulations  
Dr. Mohammad S. Raie ; Dr. John L. Tassoulas

Impact-Blasting-Penetration of Granular Materials

432. Simulation of High-velocity Penetration for Rigid Projectile into Plain Concrete Target using Discrete Element Method  
Mr. yu zhou and Linbing Wang
433. Asphalt Mixture Fatigue Evaluation Using X-Ray Tomography and Finite Element Simulation
Mr. Cheng Wan, PhD., Dr. Xiaoning Zhang, PhD.; Dr. Linbing Wang, PhD.

434. DEM Simulation of Erosion Mechanism for Semi-rigid base using PFC3D
Mrs. Yanping Sheng, PhD., Mr. Shuanfa Chen, PhD.; Dr. Linbing Wang, PhD.

435. Modeling Impacting Micropolar Bodies
Dr. Charles L. Randow; Dr. George A. Gazonas

Innovative Instrumentation and Experimental Methods in Engineering Mechanics

436. Computer Vision Techniques to Measure Displacements in Civil Infrastructure.
Mr. Glen R. Wieger; Dr. Juan M. Caicedo

437. Monitoring of Interface Debonding and Slip Using OTDR Techniques
Dr. Steve C.S. Cai, Dr. Shuang Hou; Dr. Jinping Ou

438. Applications of FBG Sensors for Subsidence and Moisture Monitoring
Dr. Shuang Hou, Dr. Steve C.S. Cai; Dr. Jinping Ou

439. Progressive Bond Failure Investigation Using X-Ray Tomography
Ms. Jingjuan Li; Dr. Laura N. Lowes

440. Mitigation of Bridge Deck Vibrations and Visualization of Flow Patterns Using PIV
Mr. Wei Zhang, Dr. Yaojun Ge; Dr. Steve C. Cai

441. Experimental Studies of Vortex Shedding Excitation and Mitigation of Large Span Bridges by Guide Vanes
Mr. Wei Zhang, Dr. Yaojun GE; Dr. Steve C.S. Cai

Instability in Solids and Structures

442. Real time experimental research of sandstone permeability on condition of temperature and triaxial pressure
Dr. Zhang Yuan, PhD., Dr. Zhao YangSheng; Dr. Kang JianRong

443. Buckling with residual stresses
Dr. Ciprian D. COMAN, PhD.

444. Temporal statistics in 3D dislocation ensembles
Mr. Jie Deng, Mr. Mamdouh Mohamed; Dr. Anter El-Azab

445. On lateral-torsional buckling of non-local beams
Dr. Noel Challamel; Dr. Chien Ming Wang

446. Statistical averaging of stress-velocity law using dislocations dynamics modeling
Mr. Mamdouh S. Mohamed, Mr. Jie Deng; Dr. Anter El-Azab
Accepted Abstracts

447. Macroscopic Instabilities of Fiber Composites
    Mr. Stephan Rudykh, M.S.; Dr. Gal deBotton, PhD.

448. Finite Volume Meshless Local Petrov-Galerkin applied to thin beam static stability analysis
    Dr. Abdelouahab Khellil, PhD.; Dr. Reza Moosavi, PhD.

449. Inelastic Stability and Second-Order Analysis of Imperfect Columns with Non-linear Semirigid Connections under Eccentric Axial Loads
    Dr. Jose D. Aristizabal-Ochoa, PhD.

450. Free-Vibration Characteristics of Unsymmetrically Laminated Composite Plates with Multiple Equilibrium Configurations
    Mr. Grant A. Vogl; Dr. Michael W. Hyer

451. Effect of Geometrical Defects on the Collapse of Straight of Curved Tubes Submitted to External Pressure
    Dr. Ali LIMAM, PhD., Mr. DINH TRAN; Dr. CEDRIC MATHON

452. Phonon analysis of carbon nanotubes with arbitrary chirality by the Objective Structures framework
    Dr. Kaushik Dayal; Dr. Ryan Elliott

453. Damage propagation in structures with inner instabilities
    Dr. Andrej Cherkaev, Dr. Elena Cherkaev; Dr. Leonid Slepyan

454. Investigation of Third Invariant Dependence on Strain Localization in Porous Sandstone
    Dr. Kathleen A. Issen

455. Low Cycle Fatigue Failure Processes in Aluminum Foam
    Mr. Mathew D. Ingraham, Dr. Kathleen A. Issen; Dr. David J. Morrison

456. A Pressure-Dependent Energy-Based Yield Criterion for Cellular Solids
    Dr. Murat Vural, PhD.

457. Effect of Topology and Morphology on the Deformation Mode of Cellular Solids
    Dr. Murat Vural; Dr. Maen Alkhader

458. Dynamic Collapse of Cylindrical Shells with Multiple Compartments
    Dr. Liang-Hai Lee, Dr. Stelios Kyriakides; Dr. K. Ravi-Chandar

459. Ratcheting, Wrinkling and Collapse of Tubes due to Axial Cycling
    Mr. Rong Jiao, M.S.; Dr. Stelios Kyriakides

460. Effect of microstructure on adiabatic shear bands in tungsten heavy alloy hollow cylinders
    Dr. Anoop G. Varghese; Dr. Romesh C. Batra
461. Thermal Buckling and Impact Resistance of Axially Loaded Lattice Structures  
Dr. Hans Obrecht, Mr. Ulf Reinicke; Mr. Marcel Walkowiak

462. Thermal Post-Buckling and Vibration Characteristics of Composite Conical Shell Structures  
Dr. Jin-Ho Roh, PhD.; Dr. Soo-Yong Lee, PhD.

**Interdisciplinary**

463. Directional solidification of a binary alloy in the presence of a foreign particle  
Dr. Layachi Hadji

464. Reliability Analysis for General Systems by Sequential Compounding Method  
Mr. Won-Hee Kang; Dr. Junho Song

465. Wave energy focusing for enhanced oil recovery  
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466. Effect of Septh of Embedment on Bearing Capacity and Settlement of Prototype (1:3) Model Footing in Sand  
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467. Hierarchical Nanostructures are Crucial to Mitigate Ultra-small Thermal Point Loads  
Dr. Zhiping Xu; Dr. Markus J. Buehler

468. Exploring Efficiency in Reinforced Concrete with Topology Optimization  
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469. Finite Element Eigen-Buckling Guidelines for Thin Plates in Shear  
Mr. Rakesh T. Naik; Dr. Cristopher D. Moen

470. Physics based Galerkin model reduction tools for fluid flow systems  
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471. POD-Galerkin Reduced-Order Models for real-time surgical simulation  
Dr. Alexander Hay, Mr. Martin Audet, Dr. Jean-Philippe Marcotte; Dr. Jean-Francois Hetu

472. Uncertainty Quantification in Hierarchical Computational Models using Bayes Networks  
Mr. Angel Urbina; Dr. Sankaran Mahadevan

473. (WITHDRAWN) A Likelihood Based Approach to Probabilistic Representation of Interval Data  
Mr. Shankar Sankararaman; Dr. Sankaran Mahadevan

474. (WITHDRAWN) Robust Optimization with Sparse Data  
Mr. Kais Zaman, Dr. Mark McDonald, Dr. Sirisha Rangavajhala; Dr. Sankaran Mahadevan
475. Representation, Aggregation and Propagation of Aleatory and Epistemic Uncertainty in Probabilistic Framework  
Mr. Kais Zaman, Dr. Mark McDonald, Dr. Sirisha Rangavajhala ; Dr. Sankaran Mahadevan

476. (WITHDRAWN) Deriving Families of Probability Distribution for Random Variables Given Interval Data  
Mr. Kais Zaman, Dr. Mark McDonald, Dr. Sirisha Rangavajhala ; Dr. Sankaran Mahadevan

**Interfacing Bio and Nano Phenomena**

477. DNA translocation kinetics in functional nanopores  
Dr. Yaling Liu, Mr. Abhijit Ramachandran ; Dr. Samir M. Iqbal

478. Multiscale Modeling of DNA-CNT and DNA-Graphene Complexes  
Dr. Sulin Zhang, Dr. Jian Zou ; Mr. Wentao Liang

**Material Response to Shock Loading**

479. An atomic scale perspective on the micro-mechanisms related to onset of spallation in nanocrystalline metals at ultra-high strain rates  
Dr. Avinash M. Dongare, Dr. Arunachalam M. Rajendran, Dr. Bruce LaMattina, Dr. Mohammed A. Zikry ; Dr. Donald W. Brenner

Mr. Victor F. Teixeira, Mr. Flavio V. Souza ; Dr. David H. Allen

481. Experimental and Microstructurally-Based Computational Investigation of the Dynamic Compressive Behavior of High Strength Aluminum Alloys  
Mr. K. ElKhodary, Dr. Mohammed Zikry, Mr. William Lee, Dr. Lipeng Sun, Dr. Donald Brenner ; Dr. Bryan Cheeseman

482. A FIRST PRINCIPLES APPROXIMATION OF COMPOSITE MATERIAL RESPONSE TO SHOCK TUBE PULSE  
Ms. Weiping Xu, M.S. ; Dr. Elizabeth K. Ervin, PhD.

483. Z-Transforms and the Optimal Design of Goupillaud Type Layered Elastic Media  
Dr. George A. Gazonas, Dr. Ani P. Velo ; Mr. Takanobu Ameya

484. Impact-induced Deformation and Stress in a LIGA Structure  
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Dr. Mike Scheidler, Dr. Martin Raftenberg, Dr. Bryan Love ; Dr. Reuben Kraft

486. Structures and Deformation Mechanisms of the á-Al/Ü and á-Al/é? Interfaces in Al-Cu-Mg-Ag Alloys: A First-Principles and Molecular Dynamics Simulation Study  
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487. High strain rate deformation and melting of single asperity electrical contacts  
Dr. Douglas L. Irving
488. Predicting Mesh-Independent Ballistic Limits for Heterogeneous Targets by a Nonlocal Damage Computational Framework
   Dr. Rashid K. Abu Al-Rub, PhD. ; Mr. Sun-Myung Kim

489. Atomic-level simulations of photomechanical damage and laser spallation
   Dr. Leonid V. Zhigilei, Dr. Elodie Leveugle, Dr. Dmitriy S. Ivanov, Dr. Zhibin Lin ; Ms. Eaman Abdul Karim

490. Hot Electron Pressure in Short Pulse Laser Interaction with Metals
   Dr. Zhibin Lin, Dr. Roland Allen ; Dr. Leonid V. Zhigilei

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491. Use of FRP Composites to Strengthen Concrete Structures
   Dr. Saud Aldajah, Dr. Ashraf Biddah ; Mr. Ammar AL-Omari

492. Performance and Characterization of Two Water-Proof Crystalline Concrete Systems
   Dr. Ali H. Al-Gadhib, M.A., Dr. Mohammed H. Baluch, PhD., Dr. Mohammed K. Rahman ; Mr. Naeem S. Saleem, M.S.

493. EFFECT OF ELEVATED TEMPERATURE ON FRACTURE PROPERTIES OF CONCRETE
   Dr. Mohamed Gamal I. Mahdy, PhD., Dr. Mahmoud A. Imam, PhD. ; Mr. Ahamed I. Elsherbiny, M.S.

494. EFFECT OF STRENGTHENING WITH CFRP ON FRACTURE PROPERTIES OF CONCRETE
   Dr. Mohamed Gamal I. Mahdy, PhD., Dr. Mahmoud A. Imam, PhD. ; Mr. Ahamed I. Elsherbiny, M.S.

495. Effect of Sulfates and Acids on Concrete Containing Rubber
   Dr. Amr F. Shaheen

496. Evaluating the effects of fine rubber aggregate on concrete performance
   Dr. Amr F. Shaheen

497. Numerical simulation of concrete under high level of confinement using 3D discrete element method
   Mr. Van Tieng TRAN, PhD., Dr. Frédéric Victor Donzé ; Dr. Philippe MARIN

498. The Effect of Cold Expansion Technique on the Fatigue Life Expansion of an Aluminum Alloy and Carbon Steel
   Mr. Muhammed S. Rana ; Dr. Chobin Makabe, PhD.

499. Assessment of Stresses due to Pits induced during Corrosion Degradation Process
   Dr. Ramana M. Pidaparti ; Mr. Ronak Patel

500. Vibration Analysis of Commercial Thermal Barrier Coatings
   Dr. Anthony N. Palazotto, PhD., Mr. Armando Deleon, M.S. ; Mr. Lindell Pearson, M.S.

   Mr. Alistair W. Pugh, Dr. Robert Hamilton, Dr. David H. Nash ; Dr. Steve R. Otto

   Miss Soyean Lim, B.S., Mr. Hyunchul Lee, M.S., Dr. Hyeonku Park, PhD. ; Dr. Seong-Seok Go, PhD.

503. Double Vacuum Bagging Coupled with Quickstep Curing Process
   Mr. Laraib Khan, M.S., Dr. A Nesbitt, PhD. ; Dr. Zaffar Khan, PhD.

504. A study on the development and performance evaluation of puzzled hwangto bricks
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Mr. Jung ho Kim, B.S., Mr. Gun Lee, M.S., Dr. Hyeon ku Park, PhD.; Dr. Seong-seok Go, PhD.

505. The effect of micro dimples on friction and wear of polyoxymethylene during dry sliding
Dr. Seong Hyuk Lee, PhD., Mr. Jaebong Lee, Mr. Sangil Park; Dr. Minhaeng Cho, PhD.

506. A new method for estimating size effect in granular materials
Dr. Wei Hu

507. Study on Crack Resistance of Steel Fiber Reinforced Concrete
Mr. Qingwen Ren; Dr. Shanshan Wang

508. Test Study on Stabilization of Fine Sand with Silt
Mrs. Gao Hua-dong, PhD., Mr. Zhou Ke, Sr.; Mr. Qin Peng-fei, Sr.

509. A New Experimental Method for Quantifying the Shrinkage Cracks in Concrete
Dr. Ayman N. Ababneh; Dr. Mashal A. Sheban

510. A study on the development of environment-friendly loessboard
Mr. Gil-Jung Kim, B.S., Mr. Hyun-Chul Lee, M.S., Dr. Hyeon-ku Park, PhD.; Dr. Seong-Seok Go, PhD.

511. Wear Of Automobile Clutch Liner
Mr. Ashutosh Pandey; Mr. Vinay Choudhary

512. Influence of basalt fiber on performance of cement mortar, Influence of basalt fiber on performance of cement mortar
Dr. chaohua jiang; Mr. Tim McCarthy

Materials Science

513. The Clay of Fez (Morocco), Materials of High Technology
Dr. Bentama Jilali

514. Effect of Aggregate Saturation Methods on Fresh Lightweight Concrete Properties
Mr. Nihat KABAY, M.S.; Dr. Fevziye AKOZ

515. Sliding Interfaces: NEMD Simulations and Theoretical Models
Dr. James E. Hammerberg, Dr. T C. Germann, Dr. B. L. Holian; Dr. R. Ravelo

516. Laser Generated Plasma: A New Approach to Advanced Material Coatings
Dr. Ravindra Akarapu, Mr. Abdalla Nassar, Dr. Stephen Copley; Dr. Judith Todd

Materiomics-Materials Science of Biological Protein Materials

517. A new molecular mechanism of fracture toughness of nacre
Miss Ying Wang; Dr. Youping Chen

518. Micromechanisms of deformation of collagen fibrils under uniaxial tension
Dr. Roberto Ballarini, PhD., Dr. Yuye Tang, PhD., Dr. Markus J. Buehler, PhD.; Dr. Steven J. Eppell, PhD.

519. Dissecting Molecular Mechanics in Different Binding Behaviors of Inhibitors to HIV-1 Protease with Coarse-Grained Molecular Dynamics Simulations
Dr. Baohua Ji
520. Molecular and Mesoscale Mechanisms of Osteogenesis Imperfecta Disease  
Dr. Markus J. Buehler ; Mr. Sebastien Uzel

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521. Waste heat recovery in a refrigerant restaurant  
Mr. Meisam Sadi, M.S.

**Mechanics of Advanced Materials and Structures**

522. Behavior of Concrete Slabs Strengthened with FRP  
Dr. Mohamed Gamal I. Mahdy, PhD., Dr. Ahamed Tahwia, PhD. ; Mr. Amr El-bogdade, M.S.

523. Study of inclusion-matrix interfacial stresses in composites containing negative-stiffness phases  
Mr. Chiching Ko

524. Boundary layer effect in partially composite beams  
Dr. Noel Challamel ; Dr. Ulfe Arne Girhammar

525. Mechanics of Non-coplanar Mesh Design for Stretchable Electronic Circuits  
Dr. Jizou Song ; Dr. Yonggang Huang

526. A New Laminated Model for Functionally Graded Plates with Arbitrary Distributed Elastic Modulus  
Dr. Zheng Zhong, PhD.

527. Analysis of Concrete Dam Crack Under Coupled Seepage and Temperature Field Based on EFM  
Mr. Xu Liqun, PhD., Dr. Shen Zhenzhong ; Mr. Li Chenliang, PhD.

528. An Experimental Technique for Developing Intermediate Strain Rates om Ductile Metals  
Mr. Hugh Gardiner, M.S., Dr. Anthony N. Palazotto, PhD. ; Dr. Reid Larson, PhD.

529. Delamination and Crack Deviation in Laminated Composites  
Dr. Xiujun Fang ; Dr. Qingda Yang

530. Damage and Failure Mechanisms in 2D Triaxial Braided Carbon Fiber Epoxy Composites  
Mr. Lee W. Kohlman, Dr. Wieslaw K. Binienda ; Dr. Gary D. Roberts

531. Dynamic Characteristics of Acoustic Metamaterials with Anisotropic Mass  
Mr. Hsin-Haou Huang ; Dr. C.T. Sun, PhD.

532. Repair of Concrete Beams Aged by Accelerated Corrosion using Externally Bonded CFRP Fabrics  
Dr. Julio F. Davalos, PhD., Mr. George C. Parish, M.S., Dr. An Chen, PhD. ; Dr. Indrajit Ray, PhD.

533. Evaluation of Load Distribution Factor by Approximate Series Solution  
Dr. Julio F. Davalos, PhD., Dr. Bin Zou, PhD. ; Dr. An Chen, PhD.

534. Interfacial Stresses for Platted Beams Composed of Different Materials  
Dr. An Chen, PhD., Dr. Julio F. Davalos, PhD. ; Ms. Fatemeh Sedigh Imani, M.S.

535. Vibrations of Noncircular Composite Cylinders  
Mr. Hung-Chieh Lo ; Dr. Michael W. Hyer

536. Analytical Damage Mechanics  
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537. Numerical Modeling of Low Velocity Impact Damage in Composite Laminates  
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538. Size and Geometry Effects on Flow Stress in Bioinspired Metal-Matrix Nanocomposites
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539. Constitutive Modeling of a Twaron®/Natural Rubber Composite
Mr. N. V. David ; Dr. Xin-Lin Gao

540. An Inverse Material Characterization Method for the Lead Rubber Bearing Under Non-Uniform Cyclic Stress States
Dr. Gunjin Yun, PhD. ; Dr. Atef F. Saleeb, PhD.

541. Exact solution for vibration of functionally graded SS-C-SS-C rectangular plates subjected to linearly varying in-plane loads
Mr. Mohammad Banakar ; Mr. AliReza Hosseinian

542. Debonding analysis of flexural-cracked concrete beams externally reinforced with FRP plates
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543. Mechanics of interface deformable magneto-electro-elastic layered structures
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544. Integrated vibro-acoustic strategy for damage detection of composite laminated plates
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545. Vibration-based damage identification methods for beam/plate-type structures
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546. Multiscale Modeling of Triaxially Braided Polymer Matrix Composites
Dr. Brett A. Bednarcyk, Mr. Kuang C. Liu ; Dr. Steven M. Arnold

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547. Modeling protein and lipid organization in bacterial membranes
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548. Modeling Vesicular Exocytosis using Boundary Integral Method
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549. Adsorption of Flexible Macromolecules on Fluid Membranes ? Theory and Biological Applications
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550. Coarse-Grained Molecular Dynamics Simulations of Shape Transitions of Red Blood Cells
Mr. Hongyan Yuan, Mr. Changjin Huang, Dr. Ju Li ; Dr. Sulin Zhang

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551. Axial-symmetry breaking in constrained membranes
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552. Modelling smectic materials
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553. Modeling Smectic Materials
Dr. Iain W. Stewart, PhD. ; Dr. Raffaella De Vita, PhD.

554. Smectic energies and existence theorems for liquid crystals
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555. Isotropic-to-nematic phase transition in a liquid-crystal droplet  
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556. Experiments in the formation and characterization of durable droplet-interface bilayers  
Mr. Stephen A. Sarles, Mr. Miles A. Creasy ; Dr. Donald J. Leo, PhD.

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557. (WITHDRAWN) Response of Axially Compressed Square Laminates Having a Rectangular Cut-out  
Dr. Ashwini Kumar

558. An experimental study on the fatigue life of prestressed concrete beams under random-amplitude fatigue loading  
Dr. Yupu Song ; Dr. Huailiang Wang

559. Analysis of Smart Hybrid Composite Reinforced With Carbon Nanotubes-Coated Piezoelectric Fibers  
Dr. Manas C. Ray, PhD.

560. Application of the Linear Combination of Displacement BIE and Hypersingular BIE in Reducing the Condition Number of the System of Equations for Domains with Mathematical Cracks  
Mr. Nimish Jagtap ; Dr. Yijun Liu

561. Numerical Study of Erosion of Loose Sand from an Overtopped Plunging Jet  
Mr. Ge Wang, Mr. C. R. Song, Mr. J. Kim ; Mr. A. H. -D. Cheng

562. Collapse Analysis in Geomechanics using the Boundary Element Method  
Mr. Jaideep Chatterjee, PhD.

563. An extension of the Zaki-Moumni model for shape memory alloys accounting for plastic deformation  
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564. FRACTURE PROPERTIES OF MODE II FOR HIGH STRENGTH CONCRETE  
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565. Surface Loading of A Multilayered Viscoelastic Pavement: Moving Load  
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566. Fracture Behavior of AISI304 Steel Welded Plates: An Experimental and Finite Element Analyses  
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567. Optimisation of Micro and Nano-Imprinting  
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568. A new constitutive theory for fiber-reinforced rubber-like materials  
Dr. Martin I. Idiart ; Dr. Oscar Lopez-Pamies

569. Microstructure Evolution using Poroelastic Characterization of Early Age Hydrating Cement Paste  
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570. A Metric Theory of Large Deformation Generalized Plasticity  
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571. Mechanics of composites with two families of finitely extensible fibers undergoing large deformations  
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572. Modeling the dynamics of red-blood cell cytoskeleton-membrane interactions  
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573. Longitudinal Vibration of Conical Bishop Rod
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574. Effects of Defect Presence on the Formation and Evolution of Adiabatic Shear Bands
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575. Static deformations of functionally graded polar-orthotropic cylinders with elliptical inner and circular outer surfaces
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576. Computational Modelling and Experimental Characterisation of Heterogeneous Materials
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577. Experimental Study of Kaolinite Particle Orientation Mechanism
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578. Effect of K-dominance Zone Size on Brittle Fracture
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579. Weibull analysis of loading rate effect on deformation behaviour and toughness of ABS
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580. Elastic behavior of some random multi-scale highly-contrasted composites
Dr. François Willot ; Dr. Guojun Nie, PhD.

581. Comparative Predictions of Slip-Systems Hardening Inequalities and a Viscoplastic Power-Law for FCC Crystals in Channel Die Compression
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582. Boundary Element Method Applied to Fatigue Crack Propagation in a Thin Aluminum Plate
Mr. Marcel Sato, B.S., Dr. Paulo Sollero, PhD. ; Dr. Éder L. Albuquerque, PhD.

583. Characterization of Material Properties for a Random Chopped-Fiber Reinforced Composite
Mr. Yi Pan ; Dr. Assimina A. Pelegri

584. The Design and Impact Analysis of a UAV Landing Gear
Dr. Halit S. Turkmen ; Mr. Berat G. Tugay

585. Multiscale modeling of polyether polyurethane foams
Mr. Tapan Sabuwala, Mr. Xiangyu Dai ; Dr. Gustavo Gioia

586. Adaptable Contact Laws for Polygon Type Discrete Element Methods
Mr. Pengcheng Fu ; Dr. John T. Harvey

587. Evolution of Agglomeration States of Moist Granular Materials with Wide Particle Size Spectra
Mr. Pengcheng Fu, Dr. David Jones ; Dr. John T. Harvey

588. Application of the Linear Combination of Displacement BIE and Hypersingular BIE in Reducing the Condition Number of the System of Equations for Domains with Mathematical Cracks
Mr. Nimish Jagtap ; Dr. Yijun Liu

589. Overall properties of binary periodic composites with anisotropic dielectric components
Mr. Eduardo Lopez-Lopez, B.S. ; Dr. Federico J. Sabina, PhD.

590. Peeling Mechanics of Extensible Elastic Adhesive Tapes
Mr. Christopher Kovalchick, Dr. Alain Molinari ; Dr. Guruswami Ravichandran

591. Cell wall stiffness, geometric uncertainty, and the elastic properties of cellular networks
Dr. Sanjay Arwade ; Dr. Benjamin W. Schafer
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592. **(WITHDRAWN) Optical Diagnostics Applied to Hypervelocity Impact Damage**
Ms. Leslie E. Lamberson, Dr. Veronica Eliasson, Dr. Ares J. Rosakis ; Dr. Marc Adams

593. **Comparative Predictions of Slip-Systems Hardening Inequalities and a**
Dr. Kerry Havner, PhD.

594. **A comparison study of the energy absorption performance of square AA6061-T6 Aluminum extrusions with two formats of discontinuities.**
Mr. Joy Pathak

595. **Estimation of Fracture Process Zone size and True Fracture Energy using Acoustic Emission Data**
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596. **Getting proper condition of laser welding of TWBs to investigate effects of forming parameters on their formability**
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597. **Fundamental Studies of Stress Corrosion Cracking in Iron from DFT**
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598. **Comparison of M-K and MMFC criteria in investigation of formability of a steel sheet**
Dr. Mostafa Ketabchi, PhD., Mr. Mahmoud Abbasi, M.S. ; Mr. Mohammad Abbasi, M.S.

599. **The recovery of stress softening and Mullins effect of a Nanoparticle-filled Polymer**
Mr. Lei Yan, Dr. David A. Dillard ; Dr. Robert L. West

600. **A weibull E-N field model to be used in the strain based approach**
Mr. Hernan A. Pinto, PhD., Dr. Alfonso Fernández-Canteli ; Dr. Enrique Castillo

601. **Mean stress effects and mean stress relaxation in high strength aluminum alloys**
Mr. Attilio Arcari, Dr. Norman E. Dowling, Mr. Christopher A. Calhoun ; Mr. David C. Moore

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Mr. Dong Wang ; Dr. Linbing Wang, PhD.

603. **Surface Loading of A Multilayered Viscoelastic Pavement: Moving Load**
Mr. Yuanguo Chen ; Dr. Ernian Pan

604. **Three-Dimensional Finite Element Modeling of Reflective Cracking in Hot-Mix Asphalt Overlay under Transient Moving Vehicular Loading: Interface Condition Effects on Reflective Cracking Development**
Mr. Jongeun Baek, Dr. Imad L. Al-Qadi, Mr. Hasan Ozer ; Mr. Hao Wang

605. **Atomistic Modeling of Bitumen-Stone Interface under Tensile Loading**
Mr. Yang LU ; Dr. Linbing Wang

606. **3D Aggregate Characterization for Modeling and Simulation of Mixture Properties**
Dr. Linbing Wang, PhD. and Erol Tutumluer

607. **Observing the Diffusion of Water into Asphalt Binder Using Magnetic Resonance Imaging**
Miss Ashley Stanford

608. **Performance Monitoring of Pavement using Distributed Sensors**
Mrs. Wenjing Xue, PhD. ; Dr. Linbing Wang

609. **Damaged Viscoelastic-Viscoplastic Model for Asphalt Concrete Mixes**
Mr. Michael A. Graham, Dr. Rashid K. Abu Al-Rub, Dr. Eyad A. Masad ; Dr. Dallas N. Little
610. Viscoelastic Analysis of HMA Beams using Discrete Element Modeling
Dr. Sanjeev Adhikari, PhD., Dr. Qingli Dai, PhD., Mr. Yu Liu, PhD.; Dr. Zhanping You

611. Predict Stiffness of Asphalt Concrete using the Strain Concentration Factor
Mr. Yu Liu, PhD.; Dr. Zhanping You, PhD.

612. Three-dimensional Discrete Element Simulation of Asphalt Concrete using Frequency-temperature Superposition
Dr. Zhanping You, PhD., Mr. Yu Liu, PhD., Dr. Qingli Dai, PhD.; Dr. Sanjeev Adhikari, PhD.

613. Modeling Fracture and Failure of Nonlinear, Inelastic Asphalt Concrete Mixtures
Mr. Thiago Francisco; Dr. Yong-Rak Kim, PhD.

**Mechanics of Phase Transformations**

614. Mesoscopic theory of ferromagnetic shape memory alloys
Dr. Jiangyu Li; Mr. Liangjun Li

615. The kinetics of 90-degrees domain switching in ferroelectric crystals at the individual domain level: Sub-processes and their kinetic laws
Dr. Doron Shilo, Mr. Yossi Abu; Mr. Eilon Faran

616. Modeling of ferromagnetic shape memory composites
Mr. Liping Liu

617. Phase Fronts in Nickel-Titanium under Cyclic Mechanical Loads
Mr. Kyubum Kim; Dr. Sam Daly

618. Temperature Effects on Piezoelectric Cyrstals
Mr. Yang Cao; Dr. Jackie Li, PhD.

619. A Boundary Element Method Coupled to Phase Field to Compute Ferroelectric Domains in Complex Geometries
Dr. Kaushik Dayal; Dr. Kaushik Bhattacharya

620. Dynamic Simulation of Pressure Induced Phase Transformation of Covalent Materials by a New Coarse Graining Methodology
Mr. Liming Xiong; Dr. Youping Chen, PhD.

621. Continuum mechanics of rechargeable batteries and the effect of elastic energy barrier on the speed of charge/discharge
Mr. Farshid Roumi; Dr. Kaushik Bhattacharya

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622. A new hyperelastic model for rubber elastic materials
Dr. Oscar Lopez-Pamies, PhD.

623. An exact result for the macroscopic response of porous Neo-Hookean solids
Dr. Martin I. Idiart; Dr. Oscar Lopez-Pamies

624. Finite Deformation of Incompressible Fiber-Reinforced Elastomers: A Computational Micromechanics Approach
Dr. Joaquin Moraleda, Dr. Javier LLorca; Dr. Javier Segurado

625. Damage by Decohesion during Finite Deformation of Fiber-Reinforced
Dr. Joaquin Moraleda, Dr. Javier Segurado; Dr. Javier LLorca
626. Macroscopic instabilities in fiber-reinforced elastomers at finite strain
   Mr. Mihalis Agoras, Dr. Oscar Lopez-Pamies ; Dr. Pedro Ponte Castaneda

627. Nonlinear effects in electro-active materials
   Mr. Luis Dorfmann

628. Models for Composite Dielectric Elastomers
   Dr. Wei Hong

629. Tribological Properties of Soft-Wet Materials
   Dr. Ilinca Stanciulescu, Dr. Bin Shen ; Dr. John Dolbow

630. Large deformation and instability in swelling gels
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631. Finite Element Analysis of Magnetoelectric Composite Structures
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632. Compacting Sandstones Through Dilatancy
   Dr. Yves M. Gueguen, PhD. ; Dr. Jerome Fortin, PhD.

633. Effect of induced intra-granular slip bands on the plastic behavior of polycrystals
   Dr. Christophe Collard, PhD., Dr. Stephane Berbenni, PhD., Dr. Veronique Favier, PhD. ; Dr. Marcel Berveiller, PhD.

634. Micromechanical modelling of isotropic viscoelastic behavior of composites: translated field approach
   Dr. stephane berbenni, Dr. Duc phi do, PhD., Dr. giraud albert, PhD. ; Dr. dashnor hoxha

635. Heat Conduction and Deformations of Viscoelastic Functionally Graded Materials
   Mr. Kamran A. Khan ; Dr. Anastasia H. Muliana

636. Notch Sensitivity and Fracture Resistance of Non-Woven Felts
   Dr. Alvaro Ridruejo, Dr. Carlos González ; Dr. Javier LLorca

637. Some perspectives on the mechanics of nanocrystalline materials
   Dr. George J. Weng

638. A MEMS based tensile stage and a microscale specimen with self-aligning mechanisms for uniaxial tensile testing
   Mr. Wonmo Kang, Dr. Jong H. Han ; Dr. Taher Saif

639. Self-consistent methods of homogenization based on numerical solutions of the one-particle problems
   Dr. Kanaun Sergey

640. Entropy of microstructure in plasticity
   Dr. Victor L. Berdichevsky

641. Incremental compliance and resistance of contacts on a rough interface: implications of the cross-property connection
   Dr. Igor Sevostianov

642. Infinite-contrast periodic composites with strongly nonlinear behavior: effective-medium theory versus full-field simulations
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Dr. Martin Idiart, Dr. Francois Willot, Dr. Yves-Patrick Pellegrini ; Dr. Pedro Ponte Castaneda

643. New bounds for effective properties of multimaterial composites and optimal microstructures
Dr. Andrej Cherkaev ; Ms. Yuan Zhang

644. Failure Initiation in PZT Sol-Gel Thin Films
Dr. Thomas A. Berfield, PhD. ; Dr. Nancy R. Sottos, PhD.

645. Effect of clusters of microcracks and pores on the statistics of peak stress and overall properties of porous/microcracked material
Dr. Igor Sevostianov

646. Identification of microstructural information from the effective properties of composite
Dr. Elena Cherkaev, Mr. Carlos Bonifasi-Lista ; Dr. Dali Zhang

Molecular Mechanics

647. Multiscale modeling of interfacial thermal transport
Mr. Ganesh Balasubramanian ; Dr. Ishwar K. Puri

648. Dynamics of Nanojet Collision
Mr. Ganesh Balasubramanian, Dr. Ishwar K. Puri ; Dr. Saad A. Ragab

649. Computational Scattering Experiments on Atomistic Material Models
Mr. Fritz Campo ; Dr. Ever J. Barbero

650. Molecular Dynamics Studies of Interfacial Separation in Carbon Nanotube Polymer Composites with Bond-breaking
Mr. Amnaya P. Awasthi ; Dr. Dimitris C. Lagoudas

651. Mechanical Properties of Silica Aerogel by Molecular Dynamics
Mr. John Sandro Rivas Murillo ; Dr. Ever J. Barbero

Multi-scale Behavior of Damage and Failure Mechanics

652. Size Effect on Strength and Lifetime Distributions of Quasibrittle Structures Implied by Atomistic Fracture Mechanics
Dr. Zdenek P. Bazant, PhD., Mr. Jia-Liang Le ; Dr. Martin Z. Bazant, PhD.

653. A Gradient Theory for Continuum Damage
Dr. Kiran N. Solanki ; Dr. Doug J. Bammann

654. Anisotropic Elastoplastic and Damage Behavior of Composite Sheets
Mr. Derek Skolnik, Dr. Haitao Liu ; Dr. Lizhi Sun

655. A Statistical Model for Damage Self-Sensing of Carbon-Fiber Reinforced Composites
Dr. Ercan Sevkat, Dr. Jackie Li, PhD., Dr. Feridun Delale, PhD. ; Dr. Ben Liaw, PhD.

656. A new formulation for multi-scale fatigue damage modeling
Ms. Zizi Lu ; Dr. Yongming Liu

657. A New Probabilistic Model for Damage in Ligaments
Mr. Zheying Guo, M.S. ; Dr. Raffaella De Vita, PhD.

658. Multiscale Modeling of Failure in Plates
Dr. Caglar Oskay
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659. Modeling Elasto-Plastic Fibrous Composite Material Behavior Using Meso-Scale Homogenization
Ms. Katherine Acton; Dr. Lori Graham-Brady

660. Top-down Multiscale Approach for Complex Damage Evolution in Composites
Dr. Qingda Yang; Dr. Brian Cox

661. Elasticity and Strength of H-bonded Protein Domains: Geometric Confinement and Size Effects at
Multiple Scales
Mr. Sinan Keten; Dr. Markus J. Buehler

662. Influence of Carbon Nanotubes on Interlaminar Fracture of Carbon-Fabric/Epoxy Composites
Mr. Piyush R. Thakre; Dr. Dimitris C. Lagoudas

663. Meso-Scale Computational Modeling of the Damage Response of Plain Concrete
Dr. Rashid K. Abu Al-Rub, PhD.; Mr. Sun-Myung Kim

Multi-scale Modeling and Characterization of Nano-Structured Polymer Composites

664. Mechanics of Near-Single-Crystal Thermoplastic Elastomers
Dr. Oscar Lopez-Pamies, PhD., Dr. Pedro Ponte Castaneda, PhD.; Dr. Vikranth Racherla, PhD.

665. Micromechanics Modeling of Carbon Nanotube-Epoxy Nanocomposites and Unidirectional Hybrid
Laminates: Summary of Elastic, Thermal and Electrical Properties with Emphasis on Coefficient of Thermal
Expansion
Dr. Gary D. Seidel

666. Atomistic Simulations of Properties of Polymer Nanocomposites
Dr. Thomas Clancy; Dr. Sarah Frankland

667. Modeling of three-phase bio-based nanocomposites: Determining bio-resin distribution in a RVE with
prescribed thermo-elastic properties
Mr. Mahmoodul Haq; Dr. Rigoberto Burgueno

668. Tensile behavior of bio-based nanocomposites: Modeling and simulation through a multi-level FE
approach with enhanced three-phase RVEs
Dr. Rigoberto Burgueno; Mr. Mahmoodul Haq

669. ELASTIC CONSTANTS AND COEFFICIENTS OF THERMAL EXPANSION FOR TOUGHENED EPOXY-
NANOTUBE COMPOSITES FROM MOLECULAR DYNAMICS SIMULATION
Dr. S. J. V. Frankland; Dr. T. C. Clancy

670. Effect of Single Wall Carbon Nanotubes on Mechanical and Electrical Properties of Unidirectional
Carbon-Fiber/Epoxy Matrix Composites
Mr. Piyush R. Thakre; Dr. Dimitris C. Lagoudas

671. Electrical and Thermo-mechanical Characterization of Carbon Nanotube Reinforced Toughened Epoxy
Nanocomposites
Dr. Dimitris C. Lagoudas, Mr. Patrick J. Klein, Mr. Piyush R. Thakre; Dr. Jiang Zhu

672. Mechanical Characterization and Constitutive Modeling of Polyurethane-Montmorillonite Nanocomposites
Mr. Amit Kaushik, Dr. Ellen Arruda, Dr. Anthony Waas, Dr. Paul Podsiadlo, Dr. Nicholas Kotov; Mr. Ming Qin

Multi-scale Modeling and Multi-scale Mechanics

673. Finite strain micromorphic pressure-sensitive elastoplasticity
Dr. Richard Regueiro
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674. Peridynamics as an Upscaling of Molecular Dynamics
    Mr. Pablo Seleson, Dr. Michael L. Parks, Dr. Max Gunzburger ; Dr. Richard B. Lehoucq

    Mr. Soheil Soghrati ; Dr. Ilinca Stanciulescu

676. Coarse-graining molecular models for solids: from statics to dynamics and from zero temperature to finite temperature
    Dr. xiantao li

677. Microscopic origins of continuum balances and peridynamics
    Dr. Richard B. Lehoucq

678. Mesoscale Simulations with Microscale Tools: Peridynamics in a Molecular Dynamics Code
    Dr. Michael L. Parks, Dr. Richard B. Lehoucq, Dr. Steven J. Plimpton ; Dr. Stewart A. Silling

679. A Multiscale Concurrent Atomistic/Continuum Theory And its Numerical Implementation
    Dr. James D. Lee

680. Simulation of Wave Propagation by a Multiscale Field Theory
    Mr. Xianqiao Wang ; Dr. James D. Lee

681. A Multiscale Modeling of Dynamic Crack Propagation
    Mr. James Chen, Mr. Xianqiao Wang, Miss Huachuan Wang ; Dr. James D. Lee

682. A new constitutive theory for fiber-reinforced rubber-like materials
    Dr. Martin I. Idiart ; Dr. Oscar Lopez-Pamies

683. Finite Element Methods for a Peridynamic Model of Mechanics
    Mr. Xi CHEN ; Dr. Max Gunzburger

684. Validation of the Thermomechanical Atomistic-to-Continuum Model
    Mr. Mesut Kirca, Dr. Wei He ; Dr. Albert C. To

685. Quantum Mechanics to Mechanics: Electronic structure calculations at macroscopic scales
    Mr. Balachandran GR ; Dr. Vikram Gavini

686. Concurrent Atomistic-Continuum Simulation of Multiscale Dynamic Materials Behavior
    Dr. Youping Chen, PhD. ; Mr. Liming Xiong

687. A Computational Framework for Multiscale Analysis of Laminated Composite Plates
    Dr. Hashem M. Mourad, Dr. Todd O. Williams ; Dr. Francis L. Addessio

688. A multiscale model for martensitic transformations and accompanying plasticity in metastable austenitic materials
    Mr. Farshid Roumi ; Dr. Kaushik Bhattacharya

689. Connecting Length Scales with Peridynamic Mechanics
    Dr. Stewart A. Silling, Dr. Richard B. Lehoucq ; Dr. Michael L. Parks

Multi-scale Modeling of Defects in Materials

690. Onset of cavitation in hyperelastic solids under arbitrary 3D loading conditions
    Dr. Oscar Lopez-Pamies, PhD. ; Dr. Martin I. Idiart, PhD.

691. Peridynamics as a Mesoscale Limit of a Crystal Lattice
    Dr. Kaushik Dayal
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692. Role of the defect-core in energetics of vacancies: An electronic-structure study
   Dr. Vikram Gavini

693. Dynamic Simulation of Dislocations and Shear Bands with Multiple Resolutions
   Mr. Liming Xiong ; Dr. Youping Chen, PhD.

694. Variability of strength in brittle materials with randomly occurring flaws and pores
   Dr. Lori Graham-Brady ; Ms. Cynthia Zingale

695. Investigation of a mathematical model for surface roughness of surface produce in high speed and ultra
   high speed milling of gamma titanium aluminide based on empirical tests
   Mr. sajad kolahdouz, M.S. ; Dr. Behruz Arezou

Multi-scale Multi-physics in Granular Materials

696. A Micromechanical Constitutive Model of Dense Granular Assemblies considering Force Chain Buckling
   Dr. Takashi Matsushima ; Dr. Ching S. Chang

697. Multiscale Kinematics In Granular Media
   Dr. John F. Peters ; Dr. David A. Horner

   Dr. Annalingam Anandarajah, PhD.

699. Characterizing tribo-electric charging and adhesion for granular materials
   Dr. Scott Johnson ; Dr. Otis Walton

700. Assessing Friction and Cohesion of Natural Porous Nanogranular Composites by Nanoindentation
   Dr. Christopher P. Bobko, Mr. Benjamin Gathier ; Dr. Franz-Josef Ulm

701. Modeling the permeability at mesoscopic scale
   Dr. Bogdan MURESAN, Dr. Nadia SAIYOURI ; Dr. Pierre-Yves HICHER, PhD.

702. Particulate flow modeling with distributed Lagrange multiplier technique
   Dr. Yuliya Kanarska, Dr. Ilya Lomov ; Dr. Tarabay Antoun

Nano-Structured Materials Multi-scale Modeling and Simulation

703. Wave Propagation Prediction in Homogeneous Materials Using Hybrid Lattice Particle Modeling
   Dr. Ge Wang, Sr.

704. Continuum Modeling of Boron Nitride Nanotubes
   Dr. Jizou Song ; Dr. Yonggang Huang

705. Molecular Dynamics Simulations of Graphite ?Vinyl Ester Nanocomposite and Its Constituents
   Ms. Hunain Alkhateb, Dr. Ahmed Al-Ostaz, Dr. Alexander Cheng ; Dr. P. Raju Mantena

Nano-, Bio-, Cellular and Multi-Functional Materials

706. Dynamic Mechanical Analysis of Magnetorheological Smart Nanocomposites
   Mr. Rui Li ; Dr. Lizhi Sun

707. (WITHDRAWN) A New Reddy-Levinson Beam Model Incorporating the Size Effect
   Dr. Xin-Lin Gao ; Ms. Hemei Ma

708. Wrinkled Surface Topographies of Electrospun Polymer Fibers
   Dr. Lifeng Wang, Miss Chia-Ling Pai, Dr. Mary Boyce ; Dr. Gregory Rutledge
709. Eshelby’s Tensor for a Spherical Inclusion in a Finite Spherical Matrix Based on a Simplified Strain Gradient Elasticity Theory
Dr. Xin-Lin Gao ; Ms. Hemei Ma

710. Alpha-Helical Protein Filaments Unify Strength and Robustness Through Hierarchical Nanostructures
Dr. Markus J. Buehler, Mr. Zhao Qin, Mr. Steven Cranford ; Mr. Theodor Ackbarow

711. Mechanical and Electrical Properties of Carbon Nanofiber/Epoxy Nanocomposites
Ms. Lanhui Sun, Dr. Zoubeida Ounaies, Dr. Xin-Lin Gao, Mr. Casey A. Whalenb ; Dr. Zhenguo Yang

712. Fabrication and Modeling of InTi Shape Memory Alloy Nanowires
Mr. Francis Phillips, Dr. Hongxing Zheng ; Dr. Dimitris C. Lagoudas

713. Physical Properties of Glassy Carbon Films and Nanowires
Dr. Aman Haque ; Mr. Mohan Manoharan

714. Thermo-Mechanical Properties of Nanoscale Thin Films
Dr. Aman Haque

715. In-situ TEM Studies of Size Effects in Thin Films
Dr. Aman Haque ; Mr. Sandeep Kumar

716. Carbon Nanotubes for Enhancing the Mechanical Properties of Cementitious Materials
Mr. Bryan M. Tyson, Dr. Rashid K. Abu Al-Rub, PhD., Mr. Ardavan Yazdanbakhsh ; Dr. Zachary Grasley

717. Probe Tip Shape and Size Effects in Nanoscale Indentation Tests for Elastic and Viscoelastic Materials
Mr. Michael A. Graham, Dr. Zachry C. Grasley, PhD. ; Dr. Rashid K. Abu Al-Rub, PhD.

**Nano-Materials**

718. Adherence of Microorganisms to Carbon Nanostructures
Miss Sonal Mazumder, Dr. Ishwar K. Puri, Dr. Joseph Falkinham, Dr. Andrea M. Dietrich ; Dr. Roop L. Mahajan

719. Multiscale Reinforced Bio-based Composites: Synergistic Behavior of UPE/EML blends, Natural fibers and Nanoclay
Dr. Rigoberto Burgueno, Mr. Mahmoodul Haq, Dr. Amar K. Mohanty ; Dr. Manjusri Misra

720. Hollow Nanospheres, Modeling and Open Questions
Dr. F.D. Fischer

721. Guided Assembly of Three-Dimensional Nanostructures via Elastic Interactions
Dr. Yucun Lou

**Nano-Mechanics**

722. Inextensible Elastica Model for the Collapse of Nanotubes
Dr. Tian Tang ; Dr. Nicholas J. Glassmaker

723. An Atomic-Scale Instability Criterion for Defect Initiation
Dr. Terry J. Delph, Dr. Jon A. Zimmerman ; Dr. Jeffery M. Rickman

724. Atomic-Scale Surface Stresses in (001)Si and Continuum Instabilities
Dr. Terry J. Delph

725. Thermal Properties at Nanoscale
Mr. Xianqiao Wang ; Dr. James D. Lee
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726. Original Surface Stress Generation of Alkanethiols on Gold Surface
Mr. Yue Zhao, Mr. Kyungho Kang ; Dr. Pranav Shrotriya

727. Buckling of a Graphene Sheet Interacting with a Rigid Substrate
Dr. Patrick Wilber

728. Molecular Simulations of Clay Minerals under Static Loading Conditions
Dr. Jianfeng Wang ; Dr. Marte Gutierrez

729. Molecular Dynamics Simulation of Electrical Field Induced Conformational Transition and Associated Frictional Performance of Monomolecular Films
Mr. Xiao Ma ; Dr. Pranav Shrotriya

730. Nano-Micro Fracture using Moment Tensor based on AE

731. Cooperative Buckling of Thick Multi-Walled Carbon Nanotubes Under Uniaxial Compression
Dr. Sulin Zhang ; Mr. Xu Huang

732. Nanomechanics of Graphene Fracture
Dr. Sulin Zhang, Mr. Sachin S. Terdalkar, Mr. Shan Huang, Mr. Hongyan Yuan, Dr. Ting Zhu ; Dr. Joseph Rencis

New Trends in Microporomechanics

733. Estimation of influence tensors for eigenstressed multiphase elastic media with non-aligned inclusion phases of arbitrary ellipsoidal shape
Dr. Bernhard Pichler ; Dr. Christian Hellmich

734. A homogenization-based constitutive model for viscoplastic porous media with evolving microstructure
Dr. Kostas Danas ; Dr. Pedro Ponte Castaneda

735. Influence of the temperature on the behavior of unsaturated porous media: a micromechanical approach
Mr. Bao Viet TRAN ; Mr. Xavier Chateau

Nonlinear Oscillations and Instabilities of Advanced Structures

736. Some Comments on the Nonlinear Dynamics Interactions Behavior of Electrostatically Actuated Microstructures
Dr. José M. Balthazar, PhD. ; Dr. Jorge L. Palacios Felix, PhD.

737. Suppressing Chaotic behavior in a Double-Well Oscillator with Limited Power Supply Using Electromechanical Damped Device
Dr. José M. Balthazar, PhD., Mr. Juliano G. Iossaqui1, B.S. ; Dr. Bento R. Pontes Jr., PhD.

738. Impact Damping of a Non-Ideal Motor/Structure System: Optimization
Dr. Reyolando M. Brasil ; Dr. Marcelo A. Silva

739. Nonlinear Vibrations of a Partially Fluid-Filled Cylindrical Shell
Dr. Paulo B. Gonçalves, PhD., Dr. Frederico M. Silva, PhD. ; Dr. Zenón Del Prado, PhD.

740. Influence of Initial Stresses on the Nonlinear Vibrations of Circular Hyperelastic Membranes
Dr. Paulo B. Gonçalves, PhD., Dr. Renata M. Soares, PhD. ; Dr. Djenane Pamplona, PhD.

741. Pull-in retarding in nonlinear Mathieu NEMS resonators under superharmonic excitation
Mr. NAJIB KACEM, PhD., Dr. SEBASTIEN HENTZ, Dr. SEBASTIEN BAGUET ; Mr. REGIS DUFOUR

742. Simulation of Railway Vehicle Hunting By Equalizing Frictional Dampers In Matlab Software
Mr. Seyyed Ali Akbar Mirmohammadi, Sr., Mr. Mohammad Reza Behi, Mr. Hamid Reza Behi ; Mr. Amin Yahyaie
743. On Chaotic Motions of a Nonideal System with (SMA) Considering the Dynamic of the DC Motor
   Dr. José M. Balthazar, PhD., Mr. Vinicius Piccirillo, B.S., Dr. Luíz S. Goes, PhD.; Dr. Luíz S. Goes, PhD.

744. Symmetry breaking, snap-through, and pull-in instabilities under dynamic loading of microelectromechanical shallow arch
   Mr. Kaushik Das; Dr. Romesh C. Batra

Particle-Fluidized Interaction

745. Erosion and dispersion of soils by water: comparison between two tests
   Dr. Christophe Chevalier, Dr. Myriam Duc, Dr. Sylvine Guedon, Dr. Tuan Long Pham; Dr. Philippe Reiffsteck

746. A proposed new method of analysis for two erodimeters
   Mr. Pierre L. Regazzoni, Dr. Didier Marot; Mr. Tony Wahl

747. Erosion-Induced Deformations in Soils
   Dr. Pierre Y. Hicher; Dr. Ching S. Chang

748. A granulometric study of internal erosion mechanisms
   Dr. Bogdan Muresan, Mr. Achraf Guefrech; Dr. Nadia Saïyouri

Predictability of Quantum to Continuum Simulations

749. Local Band Edges of Strained Quantum Dots in Half-Space Substrates
   Dr. Ernie Pan, Mr. Yu Zou, Dr. Peter W. Chung; Dr. John D. Albrecht

750. Three-dimensional InAs/GaAs quantum dots size and density study using kinetic Monte Carlo simulation
   Dr. Ernie Pan, Miss Mingkun Sun; Dr. Peter Chung

751. Elasto-Plastic analysis of functionally graded spheres
   Mr. Yousef Amirirad, M.S., Mr. Ali Niknami, M.S.; Mr. Sina Jahanpiri, M.S.

Rate Dependent Behavior of Granular Materials

752. Optimal Control of Electrostatic Self-Assembly of Binary Monolayers
   Mr. Nickolay V. Shestopalov, Dr. Graeme Henkelman, Mr. Travis Powell; Dr. Gregory J. Rodin

753. Micromechanical Model of Interfaces with Rate-Dependent Asperity Contacts
   Dr. Anil Misra

754. A strain-rate based micromechanical model for soft soils
   Dr. Ching S. Chang, Dr. Zhen Y. Yin; Dr. Pierre-Yves Hicher

755. A Visco-elastic Wedge Driven by A Sudden State-Dependent Frictional Slipage: Application to Wenchuan Earthquake
   Dr. Kam Tim Chau, PhD.

Recent Advances in Nondestructive Evaluation and Test Method in Transportation Engineering

756. Investigation of the Nuclear Gauge Density Calibration Method
   Dr. Huiming Yin; Dr. Zairen Luo

Reduced Order Modeling of Large Multi-Disciplinary Systems

757. A Lumped Parameter Model of Failure Cascade Dynamics
   Mr. Giovanni Sansavini, Dr. Muhammad R. Hajj, Dr. Ishwar K. Puri; Dr. Enrico Zio
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**Shape Memory Alloys**

758. Shape Memory with Multi-stage Transformations  
    Dr. Huseyin Sehitoglu, PhD.

759. Analyses and evaluations for composite moment frames with SMA PR-CFT connections  
    Dr. Taehyo Park ; Dr. Jong Wan Hu

760. Application of Shape Memory Alloy as an Energy Dissipater in Civil Engineering  
    Dr. Seyyed Mahdi Zahrai, PhD. ; Mr. Mohammad Javad Hamidia, M.S.

761. Stability Analysis in Magnetic Shape Memory Alloys  
    Dr. George Chatzigeorgiou, Mr. Krishnendu Haldar ; Dr. Dimitris C. Lagoudas

762. Effect of irrecoverable strains on the martensitic transformation of TiPdNi High Temperature Shape Memory Alloy  
    Mr. Parikshith Kumar ; Dr. Dimitris C. Lagoudas

763. Magnetic Field-Induced Phase Transformation in NiMnCoIn Metamagnetic Shape Memory Alloys  
    Dr. Ibrahim Karaman, Mr. Burak Basaran, Mr. Ruixian Zhu ; Dr. Haluk E. Karaca

764. Modeling of Magnetic Field-Induced Phase Transformations in NiMnCoIn Magnetic Shape Memory Alloys  
    Mr. Krishnendu Haldar, Dr. Dimitris Lagoudas, PhD., Mr. Burak Basaran ; Dr. Ibrahim Karaman

765. Macroscopic modeling of shape memory alloys for composite structures and materials simulation  
    Mr. Yves Chemisky, Mr. Arnaud Duval, Mr. Boris Piotrowski, Mr. Tarak Ben-Zineb ; Mr. Etienne Patoor

    Mr. Olivier W. Bertacchini, Mr. Justin Schick, Dr. Hongxing Zheng ; Dr. Dimitris C. Lagoudas

767. Intragraucular austenite orientation evolution of a Cu-Al-Be SMA during an in-situ tensile test  
    Dr. Sophie Berveiller, Dr. Benoit MALARD ; Dr. Etienne PATOOR

768. Three-Dimensional Modeling of Viscoplastic Deformation in Shape Memory Alloys  
    Mr. Darren J. Hartl, Dr. George Chatzigeorgiou ; Dr. Dimitris C. Lagoudas

**Soil-Machine Interactions**

769. Computational Modeling of Lunar Sand Behavior for Traction Analysis  
    Mrs. Marisa K. Orr, Dr. Balajee Ananthasayanam, Dr. Joshua D. Summers, Dr. Paul F. Joseph ; Dr. Sherrill B. Biggers, Jr.

770. Modeling Full-Scale Operation of Earth-Moving Machinery using Coupled Particle Dynamics, Machine Dynamics and Hydraulic Control Simulation  
    Dr. John Favier, Mr. Paul Naude, Dr. Richard D. LaRoche ; Mr. Mark Cook

**Solid Mechanics**

771. Three-dimensional Numerical Analysis of Construction Process for Tunnel Opening  
    Mr. Hongjian Li

772. Distortional Buckling: An Important Aspect for Short I-Beams  
    Dr. Ashwini Kumar

773. Probabilistic design optimization for Fatigue Failures of drillstrings  
    Mr. mohammad golestani sehat, M.S.
774. Analyzing random vibration fatigue of Drillstrings  
Mr. Mohammad Golestani Sehat, M.S.

775. Predicting Cutting Temperatures when Turning Stainless Steel with Worn Tools  
Mr. Chung-Shin Chang, PhD.

776. A New Method in Sheet Metal forming using Chemical Energy  
Dr. Mehran Moradi, Dr. Boozarjomehr Ghasemi; Mr. Reza Abbasian

777. Characteristic orthogonal polynomials in the study of transverse vibrations of nonhomogeneous rectangular orthotropic plates of bilinearly varying thickness  
Dr. Roshan Lal, PhD.; Mr. Yajuvindra Kumar

778. A Magnetoelastic Coupling Constitutive Model for deformable magnetized Materials  
Dr. Hao-Miao Zhou, PhD.

779. Contact stress analysis around pin-loaded holes in orthotropic plates  
Dr. Olanrewaju Aluko; Dr. Horace Whitworth

780. A Newly Developed Cruciform Specimens Geometry for Biaxial Stress Evaluation Using NDE  
Mr. Mohamed A. Mustafa, B.S.

781. Constitutive Modeling for Simulating Uniaxial and Multiaxial Cyclic and Ratcheting Responses  
Dr. Shree Krishna; Dr. Tasnim Hassan

782. Predicting Cutting Temperatures When Turning Stainless Steel With Worn Tools  
Dr. Chung-Shin Chang

783. Potential fields of an infinite medium containing arbitrarily positioned elliptic cylinders  
Dr. Hsin-Yi Kuo

784. Point Force Solutions of an Infinite Bi-Material Two-Dimensional Quasicrystal Solids  
Dr. Yang Gao, PhD.

785. The Application of Universal Serendipity Elements as Transition Elements in The Transient Problems  
Dr. Semih Kucukarslan, PhD.

786. The Geometric Theory of Elasticity and its Application to Shape Optimization of Solids  
Dr. Valery V. Vasiliev

787. An Augmented Lagrangian Treatment for Viscoelastic Contact Formulation  
Mr. Hoseyn Ashrafi, M.S.

788. Phase-field modeling of domain structures in ferroelectric thin films  
Dr. Antonios Kontsos; Dr. Chad M. Landis

789. Recent Advances on the Investigation of a Class of Constrained Aeolotropic Solids  
Mr. Adair R. Aguiar, PhD. and R.L. Fosdick

790. Buckling of Thin Cylindrical Shells: Identification of Critical Length Scales of Random imperfections Modeled as Random Fields  
Mr. Kirubel Teferra; Dr. George Deodatis

791. Finite Element Modeling of Bond For Reinforced Concrete Structures  
Ms. Jingjuan Li; Dr. Laura N. Lowes

792. A Microstructure-based Continuum Theory for Multiphase Solids  
Dr. Franck Vernerey
Coupled study of kinematic and thermal fields at the microstructure scale of metallic materials  
Mrs. Laurence Bodelot, Dr. Laurent Sabatier, Dr. Eric Charkaluk ; Dr. Philippe Dufrenoy

Straight Fold Models for Axial Crushing of Thin Walled Frusta and Tubes  
Mr. S Haider, Dr. M Hosseini, Dr. T Naqvi ; Dr. Husain Abbas

A study of restitution coefficient in low velocity impact: size and material type effects  
Mr. Kamyar Hashemnia, M.S., Mr. Ashkan Aryaei, M.S.; Dr. Khosrow Jafarpur, PhD.

Computational Life Assessment of Nonlinear Viscoelastic Components  
Dr. Sebnem Ozupek

The Effect of Varying Strain Rates and Stress States on the Plasticity, Damage, and Fracture of Aluminum Alloys  
Mr. Matthew T. Tucker, Dr. Mark F. Horstemeyer, Mr. Wilburn R. Whittington, Dr. Kiran N. Solanki ; Dr. Phillip M. Gullette

Simulation of weld line movement during forming of TWBs  
Dr. Mostafa Ketabchi, PhD., Mr. Mahmoud Abbasi, M.S.; Mr. Mohammad Abbasi, M.S.

Evaluation of the 3D Anisotropic Elastostatic Fundamental Solution by Using the Telles Transformation  
Mr. Anderson Gabriel Santiago, M.S., Mr. Paulo Sollero, PhD.; Mr. Eder L. Albuquerque, PhD.

Eigen-Analysis of Shear Buildings under Gravity Loads  
Dr. Mehmet Sahin, PhD.

Local buckling of rotationally and vertically restrained orthotropic plates  
Dr. Pizhong Qiao ; Ms. Xuping Huo

Lower Bound Buckling Pressures for Metal Tanks with Variable Thickness  
Dr. Luis A. Godoy, PhD. ; Mrs. Rossana Jaca, PhD.

On the lateral-torsional buckling of partially composite beams  
Dr. Noel Challamel ; Dr. Ulfe Arne Girhammar

Edge Effects in Buckled Thin Films on Elastomeric Substrates  
Dr. Jizhou Song, Dr. Zhuangjian Liu ; Dr. Yonggang Huang

Flat Composite Beam Flexural-Toirsional Buckling Analysis  
Dr. Jiangtian Cheng

Effect of Hydroplaning on Hydrodynamic Stresses Applied on Submarine Landslides  
Dr. Hongrui Rainey Hu

Snap Through of Curved Beams - A Nonlinear Thermomechanical Coupled Field Problem  
Miss Yenny Chandra ; Dr. Ilinca Stanciulescu

Dynamic Stability of water Tanks  
Dr. Sukhvarsh Jerath, PhD. ; Ms. Wei Qiao

Effects of core models in the interactive buckling of sandwich struts  
Dr. Ahmer Wadee, Mr. Stylianos Yiatros ; Mr. Marios Theofanous

Buckling and Vibration of Rectangular Plates with Transverse Surface Cracks  
Dr. Yang Xiang, Mr. Tyrone Attard ; Dr. Jie Yang
Accepted Abstracts

811. Non-Linear Behavior and Failure of FRP Composite Closed-Section Thin-Walled Beams
   Mr. Nuno Silva, Dr. Nuno Silvestre ; Dr. Dinar Camotim

812. Torsion Warping Transmission at Thin-Walled Frame Joints: Kinematics, Modeling and Influence on the Structural Response
   Mr. Cilmar Basaglia, Dr. Dinar Camotim ; Dr. Nuno Silvestre

813. A Fat Simulation Tool for Buckling and Postbuckling Analysis of Composite Structures
   Dr. Jifeng Xu

814. Web Local Buckling Analysis of FRP Structural Shapes
   Dr. Pizhong Qiao ; Ms. Xuping Huo

815. Equivalent Load Approach for Buckling Analysis of Tapered Members
   Dr. Miguel A. Serna ; Mr. José R. Ibañez

816. Imperfection modeling for thin-walled members
   Mr. Vahid M. Zeinoddini ; Dr. Benjamin W. Schafer

817. FSM and cFSM stability analysis for general boundary conditions
   Mr. Zhanjie Li ; Dr. Benjamin W. Schafer

Structural Optimization--Advances and Applications in Solid, Structural, and Fluid Mechanics

818. Improvement of segmented constrained layer damping on a large frequency range using simplex method
   Mr. Grégoire Lepoittevin, PhD.

819. Stress constrained continuum structural topology optimization via genetic algorithms
   Mr. James K. Guest ; Ms. Lindsey C. Smith Genut

820. Controlling feature geometry in topology optimization
   Dr. James K. Guest

Symposium in Honor of Zdenek Bazant

821. On the bending collapse of hardening-softening beams
   Dr. Noel Challamel, Dr. Christophe Lanos ; Dr. Charles Casandjian

822. Field verification of quasi-brittle fracture mechanics for snow slab avalanches
   Dr. David McClung

823. On the Size Effect on Ductile Void Growth in FCC Single Crystals and Polycrystals
   Dr. Javier Segurado ; Dr. Javier Llorca

824. Two-Level Multiscale Failure Model for Heterogeneous Materials
   Dr. Caglar Oskay ; Mr. Robert D. Crouch

825. Analytical modelling of buckling driven delamination in composite plates
   Dr. Ahmer Wadee ; Ms. Christina Voellmecke

826. Some perspectives on the thermodynamic driving force in ferroelectric crystals
   Dr. George J. Weng

827. Formation of multiple shear bands in strain-gradient plasticity
   Dr. Francesco Dal Corso ; Dr. John R. Willis

828. Dislocation dynamics across twin boundaries
   Dr. Hanchen Huang
829. Ductile-brittle transitions in bundles of time-dependent, Weibull fibers under local load sharing  
   Dr. Stuart L. Phoenix, PhD. ; Dr. William I. Newman, PhD.

830. Large deformation and electrochemistry of polyelectrolyte gels  
   Dr. zhigang suo

831. Cohesive Fracture and Size Effect  
   Mr. Edward A. Schauffert ; Dr. Gianluca Cusatis

832. Reliability Analysis of Fracture in Piezoelectric Components with a Random Microstructure  
   Dr. Miguel A. Gutierrez ; Mr. Clemens V. Verhoosel

833. Mechanical Testing of Nanostructures - Seeing the Invisible  
   Dr. Horacio D. Espinosa, PhD. ; Mr. Ravi Agrawal, M.S.

834. Numerical Simulation of Blast and Penetration Effects on Structures  
   Dr. Gianluca Cusatis

835. Molecular Mechanics Simulations of Instabilities in 3D Deformations of Gold Nanospecimens  
   Dr. Alejandro A. Pacheco ; Dr. Romesh C. Batra

836. Hygro-Thermo-Mechanical Interaction in Concrete Materials  
   Mr. Kaspar J. Willam

837. Probabilistic modelling of fracture in piezoelectric ceramics  
   Dr. Miguel A. Gutierrez ; Mr. Clemens V. Verhoosel

Teaching Mechanics

838. Teaching Undergraduate Mechanics Courses: Presentation Color Codes and Hands-on Demonstrations  
   Dr. Jin-Song Pei, Ms. Amy C. Hufnagel, Ms. Priyantha B. Wijesinghe, Mr. Michael Van Zandt, Mr. Wassim Tabet,  
   Mr. Richard C. Davis, Mr. Eric C. Mai ; Mr. Randall D. Martin

Turbulence and Fluid Mechanics in Renewable Energy

839. Magnetohydrodynamics of viscoelastic fluid over a stretching surface with suction within a porous medium  
   Dr. Andrew Chan, Dr. Ulavathi Mahabaleswar ; Dr. Pradeep Siddheshwar

Turbulence Measurement and Modeling

840. Internal-Wave Radiation on Horizontal Turbulence in Stratified Flow  
   Dr. Vincent H. Chu ; Dr. Camilo E. Pinilla

841. Turbulence Simulations by Lagrangian Blocks  
   Dr. Vincent H. Chu

Vibratory Energy Harvesting Systems

   Mr. Samuel C. Stanton ; Dr. Brian P. Mann

843. Analytical Analysis of Power Harvesting from Environments with Time-Varying Frequency  
   Mr. Thiago Osorio ; Dr. Mohammed Daqaq

844. Energy Harvesting via Parametric Excitations  
   Dr. Mohammed Daqaq, Mr. Christopher Stabler, Mr. Yousef Qaroush ; Mr. Thiago Osorio

845. Feedback optimization in passive energy harvesting networks  
   Dr. Jeffrey T. Scruggs
846. Lift Force in a Reciprocating Small Scale Low-Head, Low-Flow Rate Hydropower Concept
Dr. Ramesh B. Malla, Ms. Binu Shrestha, Mr. Jonathan Drasdis ; Dr. Amvrossios Bagtzoglou

847. Analytical Modeling and Experimental Verification of a Broadband Piezoelectric Energy Harvester
Mr. Alper Erturk, Mr. Steven R. Anton, Mr. Pablo A. Tarazaga ; Dr. Daniel J. Inman

**Vulnerability of Structures subject to Extreme Dynamic Loading**

Mr. Mohammad Irshidat, Dr. Ahmed Al-Ostaz, Dr. Alexander Cheng ; Dr. Christopher Mullen

849. A Thermoplastic Damage Model with Application to Cyclic Loading of Metallic Plate Dampers
Mr. Dongkeon Kim ; Dr. Gary F. Dargush

**Wind Engineering and Hazard**

850. (WITHDRAWN) Numerical Investigation of Aerodynamic Characteristics of a New Wind Turbine
Miss Mien-Ying Kung, M.S.

851. Prediction of Wind Induced Significant Wave Height using Fuzzy Logic Model
Dr. Abdüsselam Altunkaynak ; Dr. K. H. Wang

**Proper Orthogonal Decomposition Methods in Dynamical Systems**

D. Rempfer and P. Mokhasi

853. Improvement of the POD ROM Robustness using Optimal Sampling
M. Bergmann

854. An Adaptive POD-Krylov Reduced-order Modeling Framework for Repeated Analysis Problem
K. Calberg and C. Farhat

855. Reduced-order Model of the Velocity Field of a Micro-air Vehicle Hover Motion
C. Chabalko, P. Beran, R. Snyder, and M. R. Hajj

856. Application of Proper Orthogonal Decomposition in Computing Functional Gains
I. Akhtar, J. Borggaard, J. Burns, and L. Zietsman

857. Using Low-order Models to Assess Turbulent Convective Heat Transfer Effectiveness
M. Schwanen and A. Duggleby

858. Reduced-order Modeling of Turbulent Flows
T. Iliescu, J. Borggaard, I. Akhtar, and Z. Wang

**Recent Submissions:**

901. Dynamic Response of Polycarbonate in Tube Expansion Experiments:
H. Zhang; K. Ravi-Chandar

902. Seismic response of steel-concrete composite bridges accounting for model parameter uncertainties
Enrico Tubaldi, Michele Barbato, and Andrea Dall’Asta

903. Multi-Scale Modeling for Nanoparticle Reinforced Polymer Composites
S.H. Pyo, G. Lemaire and H.K. Lee
J. S. Chen, P. Guan

905. Development of nickel-free shape memory alloys for biomedical applications
P. Laheurte, W. Elmay, A. Eberhardt, T. Gloriant, F. Prima, and E. Patoor

J.S. Chen and P. Guan

907. Investigation of the Interface in NiTi Shape Memory Fibre-Epoxy Matrix Composite
Yousef Payandeh, Fodil Meraghni, Etienne Patoor, and Andre Eberhardt

908. No entry

909. Investigation of Behavior of Cracked Beam Members after Earthquakes
Armagan Korkmaz and Fuat Demir

910. Cyclic thermomechanical behavior modeling of SMA materials in applications
L. Saint-Sulpice, S. Arbab Chirani, and S. Calloch

911. A Unified Potential-Based Approach for Mixed-Mode Cohesive Fracture
Glaucio H. Paulino, Kyoungsoo Park and Jeffery R. Roesler

912. Tensile Shock Waves in Rubber
Johnathan Niemczura and K. Ravi-Chandar

913. Effects of size and grain boundaries on the energetic and dissipative concepts in Thermodynamic formulation of the Polycrystalline
G. Z. Voyiadjis and B. Deliktas

914. Adhesive inter-laminar and cohesive inner-layer damage mechanisms for composite materials
Guido Borino, Boris Failla and Francesco Parrinello

915. High strain rate deformation of ultra-fine grain sized nanocrystalline Cu
A. M. Dongare, A. M. Rajendran, B. LaMattina, D. W. Brenner, and M. A. Zikry

916. No entry

917. A Coarse-Grain Model for Erythrocyte Membrane
George Lykotrafitis, Ju Li and Subra Suresh

918. A Combined Cohesive-Continuum Formulation for Ductile Fracture
K. D. Papoulia

919. INTERACTION DURING TUNNELING
Jiří Boštík, Kamila Weiglová

920. Probing cell membrane fluctuations with light
Gabriel Popescu

921. Plastic Flow with Microstructural Evolution and its Effect on Strain Localization
John L. Bassani and Haizhen Pan

922. Effects of Material Anisotropy on Aggregation
Qiwei Shi and John L. Bassani

923. VISCOELASTIC FRACTURE OF HYDROGEL MATERIALS
Accepted Abstracts

Geoffrey Tizard, Katie Murray, Wonho Kim, and David Dillard

924. NUMERICAL MODELING OF CORTICAL BONE ADAPTATION DUE TO MECHANICAL LOADING USING FINITE ELEMENTS
Natarajan Chennimalai Kumar, Iwona M. Jasiuk, Jonathan A. Dantzig

925. Development and Mixing of Turbulent Thermohaline fountains
R.E. Baddour and H. Zhang

926. (WITHDRAWN) EFFECT OF FRESHWATER DIVERSION ON THE ECOSYSTEM OF MAUREPAS WETLAND
Himangshu S. Das (Coastal Hydrodynamics)

927. Simulation of Impact Behavior of Composite Materials using Thermodynamically Consistent Coupled Viscoplastic Damage Model
George Z. Voyiadjis and Babur Deliktas

928. Nonlinear Stochastic Modeling of Composites using the Energy-based Characterization
Jan Wei Pan and Tomonari Furukawa

939. Numerical and Analytical Investigations of Bearing Behavior in Thin Walled Steel Bolted Connection at Elevated Temperatures
H. He and Y. C. Wang

940. Fatigue Reliability of Composite Laminates under Multiaxial Loading
Y. Ziang and Y. Liu

941. Evaluation of concrete mix designs for migrating early-age shrinkage cracking
J. Zhuang, P. Qiao, and D. Mclean

943. Modeling and Performance Study of a Beam Microgyroscope
M. Ghommem, A. H. Nayfeh, S. Choura, F. Najar, ZE.M. Abdel Rahman

944. A Fundamental Platform for Dynamic Soil-Structure Interaction be Linearized Theory
R. Pak and J. Ashlock

945. On-line Parametric Identification of Nonlinear Hysteretic Systems with Model Uncertainty
E. Chatzi and A. Smyth

946. Challenges for Pavement Mechanics
C. Schwartz

947. Achieving Enhanced Understanding of Flexible Pavement Distress Mechanisms through the Use of Advanced Models
R. Roque

948. Study of Indirect Tension Strain Based on Digital Speckle Correlation Method
Y. Tan

949. DEM Simulation of Erosion Mechanism for Semi-rigid base using PFC3D
Y. Sheng, S. Chen, and L. Wang

950. Asphalt Mixture Fatigue Evaluation using X-Ray Tomography and Finite Element Simulation
C. Wan, X. Zhang, and L. Wang

951. Effect of Random fields on the mechanics of systems at multiple scales
J. Andrade and Q. Chen

952. Modeling of Lamb Waves for Application to Crack Identification
E. Palmos, Y. W. Kwon, and R.D. Pollak

953. Damage Detection in Non-Uniform Thickness Laminated Composite Beams using Vibration based Health Monitoring Technique
H. Ghaffare, A. Zabihollah, E. Saeedi

954. Damage Detection in Multi-Stable Laminated Composites using Vibration based Health Monitoring Technique
H. Ghaffare, A. Zabihollah, E. Saeedi