

22th DYMAT TM – Grenoble, October 19-21th

Wednesday, October 19th, CRAYA Amphitheatre, site Bergès, 1025 rue de la Piscine, Grenoble campus

Time	TITLE	SPEAKER	INSTITUTIONS
8h00	Welcome reception		
8h30	Wednesday morning – Opening ceremony Pascal FORQUIN , Grenoble Alpes University, 3SR Lab., RV Division (France)		
	Wednesday morning – Invited Lecture 1 Benjamin ERZAR , CEA Gramat (France) ; Pascal FORQUIN , Grenoble Alpes University, 3SR Lab., RV Division (France)		
8h45	An Improved Computational Constitutive Model for Glass	Timothy HOLMQUIST	Southwest Research Institute (United States)
	Wednesday morning, session 1 - Modeling of ceramics at high strain-rates Benjamin ERZAR , CEA Gramat (France) ; Pascal FORQUIN , Grenoble Alpes University, 3SR Lab., RV Division (France)		
9h30	Calibrating the Johnson-Holmquist ceramic model for a ceramic under dynamical impact	Maxime CORNIÈRE	CEDREM (France)
9h50	A Mesh-Independent Damage-Plasticity model for the Characterization of Ceramics in Ballistic Protection	Erik SIMONS	Delft University of Technology (The Netherlands)
10h10	Numerical Investigation of Fracture Processes in an Element-free Galerkin Domain	Paul WARNSTEDT	University of the Bundeswehr Munich (Germany)
10h30	Coffee break and Poster Session		
	Wednesday morning, session 2 – Experimental testing of ceramics at high-strain-rates Wayne CHEN , Purdue University (United States) ; Antonio COSCULLUELA , CEA CESTA (FRANCE)		
11h00	Characterisation of the dynamic compressive behaviour of ceramics using High Pulsed Power technologies	Benjamin ERZAR	CEA Gramat (France), Grenoble Alpes University, 3SR Lab., RV Division (France)
11h30	Strain-rate sensitivity of the tensile strength of ceramics: experimental evidences and micromechanical modelling of the fragmentation process activated at very high strain-rates	Jean-Luc ZINSZNER	CEA Gramat (France), Grenoble Alpes University, 3SR Lab., RV Division (France)
11h40	Brittle-materials at high-loading rates. An open area of research	Pascal FORQUIN	Grenoble Alpes University, 3SR Lab., RV Division (France)
12h20	Lunch at 3SR		
13h30	Visit in 3SR Lab.		
	Wednesday afternoon, session 3 - Ceramics under impact loading Leslie LAMBERSON , Drexel University (United States) ; Timothy HOLMQUIST , Southwest Research Institute (United States)		
14h50	A pulse-shaping technique to investigate the behaviour of brittle materials under plate-impact test	Pascal FORQUIN	Grenoble Alpes University, 3SR Lab., RV Division (France)
15h10	Hypervelocity impacts into porous graphite: experiments and simulations	David HEBERT	CESTA (France), LR (France), Institut Pprime (France), Procèdes et Ingenierie en Mécanique et Matériaux (France)
15h30	Coffee break and Poster Session		
	Wednesday afternoon, session 4 - Imaging-based characterisation of brittle materials at high-strain rates Magnus LANGSETH , Norwegian University of Science and Technology (Norway), Dominique SALETTI , Grenoble Alpes University, 3SR Lab., RV Division (France)		
16h00	Use of micro-tomography to investigate the dynamic fragmentation in ceramics under impact loading	Edward ANDO	Grenoble Alpes University, 3SR Lab., RV Division (France)
16h20	Image-Based Dynamic Fracture Analysis of Brittle Polymers	Leslie LAMBERSON	Drexel University (United States), University of Southampton (United Kingdom)
16h40	In-situ observation of fracture processes in high strength concrete and limestone using high speed X-ray phase contrast imaging	Wayne CHEN	Purdue University (United States), Argonne national laboratory (United States)
17h00	DYMAT General Assembly		
18h00	DYMAT Governing Board 1		

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Thursday, October 20th, CRAYA Amphitheatre, site Bergès, 1025 rue de la Piscine, Grenoble campus

Time	TITLE	SPEAKERS	INSTITUTIONS
8h15	Welcome reception		
Thursday morning – Invited Lecture 2 Jean-Luc HANUS , INSA Centre Val de Loire (France), Benjamin ERZAR , CEA Gramat (France)			
8h45	Dynamic testing of large concrete specimens with large modified Hopkinson bar apparatuses	George SOLOMOS	Joint Research Centre / European Commission (Italy)
Thursday morning, session 5 - Hopkinson bar testing facility applied to concrete Y. PETROV (Russia) ; Jean-Luc HANUS , INSA Centre Val de Loire (France)			
9h30	Experimental Analysis of the Dynamic Behavior of Concrete in Mode II fracture under Confined Conditions	Reem ABDUL RAHMAN	Grenoble Alpes University, 3SR Lab., RV Division (France)
9h50	Concrete under Dynamic Multiaxial Compressive Loading - A Current State of the Art	Matthias QUAST	Institute of Concrete Structures, Technische Universität Dresden (Germany)
10h10	The effect of pulse shaping on the dynamic mechanical behavior of concrete	Alper CANKAYA	Izmir Institute of Technology (Turkey)
10h30	Coffee break and Poster Session		
Thursday morning, session 6 - Hopkinson bar testing facility applied to concrete George SOLOMOS , Joint Research Centre / European Commission (Italy) ; Jacky MAZARS , Grenoble Alpes University, 3SR Lab., RV Division (France)			
11h00	Identification of the tensile behaviour of brittle materials under dynamic loading using Digital Image Correlation and Virtual Fields Method	Bratislav LUKIC	Grenoble Alpes University, 3SR Lab., RV Division (France)
11h20	Dynamic flexural strength of mortar	Jean-Luc HANUS	Laboratoire PRISME (France), Laboratoire PRISME (France)
11h40	Tensile behaviour of strain-hardening cement-based composites (SHCC) under high-speed loading	Iurie CUROSU	Technische Universität Dresden, Institute of Construction Materials (Germany), DynaMat Lab, University of Applied Sciences of Southern Switzerland (Switzerland)
12h00	Measurement of fracture properties of concrete at high strain rates	Victor REY DE PEDRAZA	Departamento de Ciencia de Materiales. UPM (Spain)
12h20	Lunch at 3SR		
Thursday afternoon – Invited Lecture 3 Ezio CADONI , SUPSI DYMAT (Switzerland) ; Julien BAROTH , Grenoble Alpes University, 3SR Lab., RV Division (France)			
13h45	High performance concrete engineered for protective barriers	Avraham DANCYGIER	Faculty of Civil and Environmental Engineering, Technion (Israel)
Thursday afternoon, session 7 - Dynamic testing and modeling of concrete at high-strain-rates Ezio CADONI , SUPSI DYMAT (Switzerland) ; Julien BAROTH , Grenoble Alpes University, 3SR Lab., RV Division (France)			
14h30	UHPFRC under impact: experimental analysis of the mechanical response in extreme conditions and modelling using PRM model	Christophe PONTIROLI	CEA, DAM, GRAMAT (France)
14h50	Two dynamic effects of quasi brittle failure of rocks and concrete in terms of the structural-temporal approach	Yuri PETROV	Lobachevsky State University of Nizhni Novgorod (Russia), Saint-Petersburg State University (Russia)
15h10	Simplified method strategies based on damage mechanics for concrete under dynamic loadings	Jacky MAZARS	Grenoble Alpes University, 3SR Lab., RV Division (France)
15h30	Coffee break and Poster Session		
Thursday afternoon, session 8 - Dynamic testing of geomaterials at high-strain-rates Stephen WALLEY , University of Cambridge (United Kingdom) ; Yann MALECOT , Grenoble Alpes University, 3SR Lab., RV Division (France)			
16h00	Spall experiments for determining dynamic tensile strength of rock materials	Se-Wook OH	Chonbuk National University (South Korea)
16h20	Effects of strain rate and surface cracks on the mechanical behavior of Balmoral Red granite	Ahmad MARDOUKHI	Tampere University of Technology (Finland), University of Potsdam (Germany)
16h40	One-dimensional Response of Geological Materials to Shock Loading	Qianbing ZHANG	Monash University (Australia)
17h00	Combined mechanical and electrical loading for improved hard rock breaking	Marion FOURMEAU	SINTEF (Norway)
17h20	Tensile Strength of Granite at High Strain Rates	Mahdi SAADATI	Department of Solid Mechanics, KTH Royal Institute of Technology (Sweden), 3SR Lab (France), Atlas Copco (Sweden)
17h40	Study of the impact behavior of simulated hailstone	Paul DECONINCK	THIOT INGENIERIE (France), Laboratoire de glaciologie et géophysique de l'environnement (France), Laboratoire de Mécanique des Contacts et des Structures (France)
18h00	DYMAT Governing Board 2		

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Friday, October 21th, GALILEE Building, 3SR Laboratory, 1270 rue de la piscine, Grenoble campus

Time	TITLE	SPEAKER	INSTITUTIONS
8h15	Welcome reception		
Friday morning – Invited Lecture 4 Mahdi SAADATI , Atlas Copco (Sweden) ; Pascal FORQUIN , Grenoble Alpes University, 3SR Lab., RV Division (France)			
8h45	Lattice Discrete Particle Model (LDPM) for Fracture Dynamics and Rate Effect in Concrete: Theory, Calibration, and Applications	Gianluca CUSATIS	Northwestern University (United States), The University of the West Indies (Trinidad and Tobago), ES3 (United States)
Friday morning, Session 9 - Modeling of brittle materials at high strain-rate Mahdi SAADATI , Atlas Copco (Sweden) ; Emmanuel ROUBIN , Grenoble Alpes University, 3SR Lab., RV Division (France)			
9h30	Numerical Simulation of Rock Dynamic Failure by Particle-Based Numerical Manifold Method	Xing LI	Monash University (Australia)
9h50	Development and validation of GPU-based 3D- dynamic fracturing process analysis code for rocks subjected to impact loading	Sangho CHO	Chonbuk National University (South Korea)
10h10	Model generator of cancellous bone architecture : from microstructure to macroscopic behaviour	Marianne PROT	LBM/Institut de Biomecanique Humaine Georges Charpak (France)
10h30	Coffee break and Poster Session		
Friday morning, Session 10 - Brittle structure under dynamic loading Jaap WEERHEIJM , TNO (The Netherlands) ; Eric BUZAUD , CEA-CESTA (France)			
11h00	Dynamic measurement of absorbing materials	Miloslav POPOVIC	SVSFEM Ltd. (Czech Republic), Research Institute for building materials (Czech Republic)
11h20	Experimental and numerical investigation of the damage process in RC beam-column subassemblies under a middle column removal scenario	Guo-Qiang ZHAO	Grenoble Alpes University, 3SR Lab., RV Division (France)
11h40	GFRP-brick strengthening systems under high strain rates	João PEREIRA	Institute for Sustainability and Innovation in Structural Engineering (Portugal)
12h00	Soft impact of laminated glass as used for aircraft windshields	John DEAR	Department of Mechanical Engineering, Imperial College London (United Kingdom), Beijing Institute of Aeronautical Materials (China)
12h20	Conclusion of the DYMAT Technical Meeting		
12h30	Lunch at 3SR		
13h30	Departure to the DYMAT TM/LWAG tour		