

# IGF Video recordings

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IGFXXV  
Catania, 2019



# IGFXXV

June 9-11, 2019 - Catania



## Important Dates

- 28.02.2019:** Abstracts submission  
**05.03.2019:** Abstracts notification of acceptance  
**20.05.2019:** Paper/papers submission  
**25.05.2019:** Papers notification of acceptance  
**31.05.2019:** Early bird registration

## Organizing Secretariat

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- by bank transfer (free of charge for IGF)
- by credit card

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It will be also possible to pay during the on-site registration (cash and main credit cards). In this case, a supplement of 50 € will be applied.

## VIDEO-PRESENTATIONS

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Computational approaches to fluid flow in fractured and fracturing porous media	R. de Borst	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.1">https://doi.org/10.53255/IGFTUBE.IGF25.1</a>
Invited Editing an International Journal for 20+ years	M. N. James	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.2">https://doi.org/10.53255/IGFTUBE.IGF25.2</a>
Calculation of Stress Intensity Factors with an Analytical Enrichment of the Modified Crack Closure Integral	J. Scheel, A. RicoeurM. Kurpka	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.3">https://doi.org/10.53255/IGFTUBE.IGF25.3</a>
Effect of Porosity and Cell Topology on Elastic Plastic Behavior of Cellular Structures	S. Raghavendra, A. Molinari, V. Fontanari, M. Benedetti, V. Luchin, G. Zappini	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.4">https://doi.org/10.53255/IGFTUBE.IGF25.4</a>
Experimental study of the rheological behavior of steels at the postcritical deformation stage at high temperature	M. Tratyakov, V. Wildemann	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.5">https://doi.org/10.53255/IGFTUBE.IGF25.5</a>
Failure analysis of an aircraft GTE compressor disk on the base of imitation modeling principles	V. Shlyannikov, R. Yurullin, I. Ishtyryakov	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.6">https://doi.org/10.53255/IGFTUBE.IGF25.6</a>
Fatigue crack onset by Finite Fracture Mechanics	A. Sapora, P. Cornetti, A. Campagnolo, G. Meneghetti	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.7">https://doi.org/10.53255/IGFTUBE.IGF25.7</a>
Influence of critical plane definition on fatigue lifetime estimation under variable amplitude nonproportional multiaxial loading	M. Margetin, M. Kepka	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.8">https://doi.org/10.53255/IGFTUBE.IGF25.8</a>
Investigation on the fracture behavior of foamed concrete	D. Falliano, D. De Domenico, A. Sciarrone, G. Ricciardi, L. Restuccia, G. Ferro, J.M. Tulliani, E. Gugliandolo	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.9">https://doi.org/10.53255/IGFTUBE.IGF25.9</a>
Mixed mode crack propagation during needle penetration for surgical interventions	A. Spagnoli, M. Terzano, D. Dini	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.10">https://doi.org/10.53255/IGFTUBE.IGF25.10</a>

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Numerical simulation of freezing pipe deformation during artificial ground freezing	A. Kostina, M. Zhelnin, I. Panteleev, O. Plekhov, L. Levin	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.11">https://doi.org/10.53255/IGFTUBE.IGF25.11</a>
Proposal of a Simplified Elastic Plastic Analysis Procedure for Strain Determination of Nuclear safety class I components under seismic loads	Jong-Sung Kim	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.12">https://doi.org/10.53255/IGFTUBE.IGF25.12</a>
Stress assessment of single mitered bend using approximate cylindrical shell solutions	Y. Dubyk, I. Selivestrova, A. Bogdan	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.13">https://doi.org/10.53255/IGFTUBE.IGF25.13</a>
Structural response of cable stayed bridge subjected to blast load	C.D. Tetougueni, P. Zampieri	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.14">https://doi.org/10.53255/IGFTUBE.IGF25.14</a>
A numerical analysis of fatigue crack closure using CTOD	L. Borrego, B. Marques, J. M. Ferreira, F. Antunes, R. Branco	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.15">https://doi.org/10.53255/IGFTUBE.IGF25.15</a>
A phase field approach for crack modelling of elastomers	R. Brighenti, A. Carpinteri, M. P. Cosma	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.16">https://doi.org/10.53255/IGFTUBE.IGF25.16</a>
An approximate solution for the inverted four point bending test in symmetric specimens	I. Monetto, R. Massabò	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.17">https://doi.org/10.53255/IGFTUBE.IGF25.17</a>
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Analytical Solution of the Pipe Burst Pressure Using Bilinear Stress Strain Model and Influence of Corrosion Defects	V. Chmelko, I. Berta	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.19">https://doi.org/10.53255/IGFTUBE.IGF25.19</a>
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Assessment of dents for gas pipelines	Y. Dubyk, I. Selivestrova	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.21">https://doi.org/10.53255/IGFTUBE.IGF25.21</a>
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The impact of temperature and exploitation timeon crack growth and fracture toughness in a welded joint	I. Camagic, S. Sedmak, A. Sedmak, Z. Burzic, M. Marsenic	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.24">https://doi.org/10.53255/IGFTUBE.IGF25.24</a>
Thermographic analysis during tensile tests and fatigue assessment of S355 steel	P. Corigliano, F. Cucinotta, E. Guglielmino, G. Risitano, D. Santonocito	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.25">https://doi.org/10.53255/IGFTUBE.IGF25.25</a>
Toughness of low transformation temperature LTT weld filler materials	Ann-Christin Hesse	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.26">https://doi.org/10.53255/IGFTUBE.IGF25.26</a>
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A Study of Energy Balance in Deformed Metals for Assessment of Damage Accumulation Stage	O. Plekhov, A. Kostina, A. Vshivkov, A. Iziumova	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.28">https://doi.org/10.53255/IGFTUBE.IGF25.28</a>
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Effect of thermal cycling freeze thaw heat on fracture induced elastic anisotropy of rapakivi granite	T. Ivankina, T. Lokajicek, I. Zel, M. Petruzalek	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.30">https://doi.org/10.53255/IGFTUBE.IGF25.30</a>
Evaluation of the heat dissipated around the crack tip of AISI 422 and CF3M steels by means of thermography	D. Palumbo, R. De Finis, U. Galietti	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.31">https://doi.org/10.53255/IGFTUBE.IGF25.31</a>
Evaluation of the mechanical properties of cements with fillers derived from the CO <sub>2</sub> reduction of cement plants	L. Restuccia, G.A. Ferro, I. Cosentino, F. Liendo, F. Deorsola, S. Bensaid	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.32">https://doi.org/10.53255/IGFTUBE.IGF25.32</a>
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Experimental determining of fracture behaviour of P460NL1 steel welded joint specimens	E. Dzindo, S. Sedmak, I. Camagic, Z. Burzic, S. Perkovic, I. Cvetkovic	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.34">https://doi.org/10.53255/IGFTUBE.IGF25.34</a>
Fatigue assessment of the collapsed XXth Century cable stayed Polcevera bridge in Genoa	S. Ivernizzi, F. Montagnoli, A. Carpinteri	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.35">https://doi.org/10.53255/IGFTUBE.IGF25.35</a>
Fatigue damage analysis of composite materials using thermography based techniques	R. De Finis, D. Palumbo, U. Galietti	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.36">https://doi.org/10.53255/IGFTUBE.IGF25.36</a>
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Optimizing strengthening interventions on historic masonry walls an experimental study	A. Marinelli, S. Santa, A. Spiliopoulos, M. E. Dasiou	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.42">https://doi.org/10.53255/IGFTUBE.IGF25.42</a>
Risk based analysis of temperature and time effects on brittle fracture of A 387 Gr B welded joint	I. Camagic, S. Kirin, A. Sedmak, Z. Burzic	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.43">https://doi.org/10.53255/IGFTUBE.IGF25.43</a>
Effect of seawater environment on the fracture toughness of mooring chain	F. Oikonomidis, P. Bastidd, M. F. dos Santos	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.44">https://doi.org/10.53255/IGFTUBE.IGF25.44</a>

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Investigations of radiation embrittlement mechanisms of steels using method of fractographic analysis	A.D. Erak, E.A. Kuleshova	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.49">https://doi.org/10.53255/IGFTUBE.IGF25.49</a>
Low Velocity Impact Behaviour of Sandwich Composite Structures with E-Glass/Epoxy facesheets and PVC foam	A. C. Balaban, K.F. Tee, M. E. Toygar	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.50">https://doi.org/10.53255/IGFTUBE.IGF25.50</a>
An extrinsic interface developed in an equilibrium based finite element formulation	F. Parrinello, G. Borino	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.51">https://doi.org/10.53255/IGFTUBE.IGF25.51</a>
Damage investigation of Aeronautical CFRP laminates under Bearing Tests	V. Dattoma, F. Panella, A. Pirinu, A. Saponaro	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.52">https://doi.org/10.53255/IGFTUBE.IGF25.52</a>
Effect of Zirconia ALD coating on stress corrosion cracking of AZ31 alloy in simulated body fluid	M. Peron, J. Torgersen, F. Berto	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.53">https://doi.org/10.53255/IGFTUBE.IGF25.53</a>
Effect of post treatments on the fatigue properties of additively manufactured Ti-6Al-4V thin samples	T. Persenot, A. Burr, G. Martin, R. Dendievel, J.-Y. Buffiere	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.54">https://doi.org/10.53255/IGFTUBE.IGF25.54</a>
Minimizing self heating based fatigue degradation in polymeric composites by air cooling	A. Katunin, D. Wachla	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.55">https://doi.org/10.53255/IGFTUBE.IGF25.55</a>

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Multiaxial Fatigue Behavior of Ti6Al4V alloy obtained by additive manufacturing	C. Biffi, J. Fiocchi, F. Furgiuele, P. Magarò, C. Maletta, D. Renzo, E. Sgambitterra, A. Tuissi	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.56">https://doi.org/10.53255/IGFTUBE.IGF25.56</a>
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Comparison between thermal energy and acoustic emission for the fatigue behavior of steels	F. Giudice, G. La Rosa, C. Clienti, P. Lo Savio	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.64">https://doi.org/10.53255/IGFTUBE.IGF25.64</a>
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Description of the cyclic material behavior of aluminum wrought alloys as basis for a digital twin	R. Wagener, A. Maciolek, H. Kaufmann	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.66">https://doi.org/10.53255/IGFTUBE.IGF25.66</a>
Effect of anisotropic microstructure on the fatigue	W. Zhang	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.67">https://doi.org/10.53255/IGFTUBE.IGF25.67</a>

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Exploring the low temperature tempering range of low alloy quenched and tempered steels	D. Firrao, P. Matteis, A. De Sario	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.69">https://doi.org/10.53255/IGFTUBE.IGF25.69</a>
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Fatigue Strength of Laser Beam Welded Steel Aluminum Joints Considering Variable Amplitude Loading and corrosive environment	B. Moller, S. Albrecht, R. Wagener, T. Melz	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.71">https://doi.org/10.53255/IGFTUBE.IGF25.71</a>
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A local approach incorporating the measured statistics of microcracks to assess the temperature	C. Ruggieri, A. P. Jivkov	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.77">https://doi.org/10.53255/IGFTUBE.IGF25.77</a>

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dependence of cleavage fracture for a reactor pressure vessel steel		
A study of wear and rolling contact fatigue on a wheel steel in alternated dry wet contact aided by innovative measurement systems	I. Bodini, A. Mazzù, C. Petrogalli, M. Lancini, T. Kato, T. Makino	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.78">https://doi.org/10.53255/IGFTUBE.IGF25.78</a>
Acoustic Emission Entropy as a fracture sensitive feature for real time assessment of metal components under fatigue loading	D. D'Angela, M. Ercolino	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.79">https://doi.org/10.53255/IGFTUBE.IGF25.79</a>
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Critical Phenomena in Portevin–Le Chatelier effect during compression of aluminium magnesium alloy and stored energy evolution	S. Uvarov, D. Efremov	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.81">https://doi.org/10.53255/IGFTUBE.IGF25.81</a>
Experimental and theoretical analysis of heat flux at fatigue crack tip under mixed mode loading	A. Vshvkov, A. Iziumova, R. Yarullin, V. Shlyannikov, O. Plekhov	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.82">https://doi.org/10.53255/IGFTUBE.IGF25.82</a>
Experimental study of high strength steel under VHCF with external alternating magnetic field	A. Prokhorov, O. Plekhov, A. Sudakov, S. Gladkovskii, S. Kuteneva	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.83">https://doi.org/10.53255/IGFTUBE.IGF25.83</a>
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Influence of material and manufacturing technology on the failure behavior of composite laminate bonded joints	F. Moroni, A. Pirondi, L. Collini, C. Pernechele, L. Vescovi	<a href="https://doi.org/10.53255/IGFTUBE.IGF25.94">https://doi.org/10.53255/IGFTUBE.IGF25.94</a>
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