

CV

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Sept 2020, h-index 16, total citations=747 (<https://www.scopus.com/authid/detail.uri?authorId=36615982700>)

Italian scientific qualification for geophysics (04/A4 rank 2 – Associate Professor)

Disciplinary Fields

Experimental rock physics: Rheology of rocks and fluids, Attenuation of seismic waves, Digital rock physics; Earthquake nucleation and friction in rocks; Sedimentology: Genesis of caves and cave deposits.

Education

- March 2009 – April 2013 Ph.D. candidate at ETH Zurich, supervisor: Prof. Jean-Pierre Burg and Dr. Luigi Burlini, thesis title: *Experimental characterization of reservoir rocks and geotechnical materials. low-frequency attenuation, ultrasonic velocities, and local pore pressure effects*;
- Oct 2005 - Oct 2008: M.S. in geology at University of Padua (IT), supervisor: Prof. Giulio Di Toro, thesis title: *Experimental investigation of flash weakening in limestone*, final evaluation: first-class degree (110/110 cum laude);
- Oct 2001 -Dec 2004: B.S. in geology at University of Padua (IT), final evaluation: first-class degree (110/110 cum laude);
- Sept 1993 – Jun 1998: Technical Industry Institute – Silvio De Pretto – Schio (IT), final evaluation: 56/60.

Professional positions held

- Since 2016: **Assistant Professor** of Geophysics at The University of Texas at Austin (TX), USA – Jackson School of Geosciences (JSG), Department of Geological Sciences (DGS);
- Since May 2017: **Assistant Professor (zero-time appointment)** at University of Toronto, Department of Civil Eng., Toronto, Canada;
- Sept - Dec 2015: **Adjunct Faculty** at The University of Texas at Austin (TX), USA –JSG, DGS: 0% appointment (not paid) position granted to allow submitting research proposals and to access facilities;
- Jan 2014 - Dec 2015: **Post-Doctoral fellow** at University of Toronto *project: “Experimental Rock Deformation under micro-CT - ERD μ ,” granted by Swiss National Scientific Foundation and GeoMechanics group at University of Toronto – Prof. G. Grasselli (~100.000 \$)*;
- Jan 2014 – Dec 2015: **Lecturer** at ETH Zurich (CH) – Structural Geology and Tectonics group – Rock Deformation Laboratory: 0% appointment (not paid) position granted to access facilities;
- May 2013 – Dec 2013: **Post-Doctoral researcher** at ETH Zurich (CH) – Structural Geology and Tectonics group – Rock Deformation Laboratory, *projects in collaboration with Exxon-Mobil and Petrobras*;

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- Nov 2011 – May 2012: **consultant** at the Institute of Geophysics ETHZ (Prof. H. Maurer) and NAGRA – <http://www.nagra.ch/>: *design and development of a multichannel acquisition system for seismic signals for GAST experiment in Grimsel Test Site (CH)*;
- 2011: **consultant** for SGPK (Dr. A. Zappone): *design and development of a scientific instrument for SAPHYR project*;
- Mar 2009 – Dec 2009: **technical consultant** for Tecnopenta s.a.s. (IT) and Hydra s.r.l. (IT);
- Oct 2004 – Feb 2009: **commercial technician** at Tecnopenta s.a.s. (IT) – <http://www.tecnopenta.com/>;
- Oct 2004 – Oct 2005: **IT professional** at Land Technology & Services S.r.l –Treviso - <http://www.ltsht.com/>; development of a geological database for collecting geo-field data;
- Jul 2000 – Sep 2004: **sub-agent of insurance** for AXA assicurazioni – Schio (IT);
- Jun 1999 – Jun 2000: **policeman** in Carabinieri Corps – Italy (military service).

Research

- My research focuses on the experimental determination of i) **anelasticity of rocks and attenuation of seismic waves at low frequencies in rocks and fluids**, ii) **fluid pressure transients generated by stress**, iii) **physical properties** of geo-materials (e.g. ultrasonic velocities, V_P and V_S under high-PT conditions), and iv) Digital Rock Physics. My contribution to rock physics helps to improve the monitoring and imaging of the subsurface and try to solve problems related to **seismic monitoring, active margins, volcanic areas, exploitation of CO₂, geothermal or hydrocarbon reservoirs**. I attempt to understand how rock-saturating fluids, such as **water and CO₂** mixtures, modify the physical properties of rocks. I have also been studying **friction coefficient during seismic slip** and the **genesis of caves and speleothems, which are also controlled** by complex **interactions between fluids - mainly water and CO₂ - and rocks**. I use different analytical methods to characterize rocks: X-Ray diffraction (XRD), Raman spectroscopy, scanner- and synchrotron-based X-Ray computed tomography, Scanning Electron Microscopy (S.E.M.) including Energy Dispersive X-Ray spectroscopy (EDAX). I own additional laboratory competencies in studying i) permeability of porous media confined at high pressure (up to 400 MPa), ii) acoustic emissions (AE), and iii) mechanical compaction of clays. If necessary, I can **design and develop laboratory apparatus** to conduct my experiments and utilize numerical methods to tackle the physics behind laboratory observations. For instance, I employ the finite differences code Sofi2D/3D to simulate the propagation of seismic waves;
- During my Post-Doc at the University of Toronto I combined **X-ray computed tomography** with the **measurements of low-frequency elastic properties of rocks** and the **evolution of brittle shear zones**. In particular, I have designed and realized (in collaboration with a mechanical workshop) two new X-ray transparent vessels to be used inside a micro-CT scanner that is available at the University of Toronto. The project aimed at understanding how **complex elastic moduli of rocks vary with saturation in water and CO₂**. The idea was to link microstructural variations related to dissolution or precipitation of minerals to variations in elastic properties.
- I have been studying the effective complex elastic properties of rocks saturated with liquids containing bubbles. Studying multiphase fluids is important **to monitor volcanic edifices, seismogenic faults** and to **detect leakages of geological sequestrated gases**;

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- Between 2010 and 2013, in collaboration with scientists from different universities, I spent ~150 h at the TOMCAT beamline of the Swiss Light Source (i.e., synchrotron) to study and image rocks saturated with multiphase fluids;
- Starting 2011 I have co-authored **39 publications in peer-reviewed journals**;
- Since March 2009, I have attended **34 International meetings**, including SEG, EAGE, AGU, EGU general meetings. During these conferences, I gave **45 presentations** (talks+posters) and submitted **~36 extended abstracts** (first author and co-author). Overall, I have contributed to **50 international conferences with a total of ~130 abstracts**;
- My first Post-Doc at ETH Zurich was funded by ExxonMobil and Petrobras (~\$60,000)
- My second Post-Doc was funded by the Swiss National Scientific Foundation and the University of Toronto as my project “*Experimental Rock Deformation under micro-CT – ERD μ* ” (~\$95,000);
- I am a collaborator in the project of the ERC project NoFear (P.I. Prof. G. Di Toro) (~\$2,000,000);

Teaching

- At UT Austin, I have been teaching:
 - 2019 - : **Computational Applications in the Geosciences** GEO325G (co-taught in 2018), MATLAB for geoscientists;
 - 2017 - : **Geophysical Measurements and Monitoring** GEO391/GEO371, where students learn about **methodologies for environmental monitoring and how to program and use ARDUINO based sensors. The course includes designing and 3D printing**. The development of this course was supported by a Faculty Innovation Grant that was granted by UT Austin in 2018;
 - 2019 - : Geophysics colloquium GEO 114G (coordinator);
 - 2016 – 2017: Geophysics for Major Geosciences GEO468K;
 - 2019: Four days of field camp (GEO 660) (principal instructor: Dr. Mark Helper);
- 2013: Lecturer of courses i) Experimental Rock Deformation and ii) Rock Physics at ETH Zurich;
- 2012: Lecturer of the course: Experimental Rock Deformation at ETH Zurich;
- 2010 – 2011: Teaching assistant of the course: Experimental Rock Deformation at ETH Zurich;

Relevant Field Experiences

- 2012: I organized and participated in a geological field trip to Cuba to study the peculiar concretions of Santa Catalina Caves – Matanzas;
- 2012: I actively participated to the field trip organized by the BioGeoScience group of ETH Zurich (Prof. Tim Eglinton) to collect fluvial sediments of the Kaveri River (India);

Service

- 2019: I organized the AGU session MR004: Anelasticity and Rocks: Across Scales and Deformation Regimes;
- 2019: I co-organized the AGU session: Digital Rock Physics: State-of-the-Art Numerical Modeling of Laboratory Experiments I Posters (EJ Goldfarb, N Tisato, M Prodanovic, SPS Gulick, K Ikeda) AGU Fall Meeting 2019;

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- 2018 – 2019: Theme leader for geophysics at AAPG Annual Convention and Exposition 2019, 19-22 May 2019, San Antonio (program chair: Dr. Lorena Moscardelli – Equinor);
- 2019 - : Member of the undergrad advising committee at the Department of Geological Sciences of UT Austin (committee chair: Prof. Daniella Rempe);
- 2018 – : Member of the committee for the geophysics curriculum reform at the Department of Geological Sciences of UT Austin (Austin (committee chair: Prof. Kyle Spikes);
- 2012 - : Reviewer for peer-reviewed journals (e.g. Geophysics, Journal of Geophysical Research, Research Geophysical Letters);
- 2015 - : Reviewer of scientific proposals submitted to the National Scientific Foundation (NSF) and European Research Council (ERC);
- 2017 – 2018: Member of a search committee to hire an Assistant Prof. in Sedimentology at the Department of Geological Sciences of UT Austin (committee chair: Prof. David Mohrig);
- 2016 - : Committee member for the thesis or qualifying exam of:
 - Spring 2017-: Fu, Suyu (Geological Sciences, role Member, level Doctoral);
 - Fall 2017-: Abdulah Eljalafi (Geological Sciences, role Member, level Doctoral);
 - Fall 2017-: Natchanan (Mint) Doungkaew (Geological Sciences, role Member, level Doctoral);
 - Fall 2017-: Qiqi Wang (Geological Sciences, role Member, level Doctoral);
 - Fall 2018-: Ramiro Ramirez, Sebastian (Geological Sciences, role Member, level Doctoral);
 - Fall 2018-: Ricardo De Braganza (Geological Sciences, role Member, level Doctoral);
 - Fall 2018-: Schroeder, Colin Lucas (Geological Sciences, role Member, level Doctoral);
 - Fall 2018-: Stephanie Forstener (Geological Sciences, role Member, level Doctoral);
 - Fall 2018-: Wei Xie (Geological Sciences, role Member, level Doctoral);
 - Spring 2019-Spring 2019: Mccann, Michael Ryan (Geological Sciences, role Co-Supervisor, level Master's);
 - Fall 2016-Fall 2018: Matthew Ramos (Geological Sciences, role Member, level Doctoral);
 - 2017 - Alison Lawman – UT Austin (supervisor: Prof. Terry Quinn);
 - 2018 - Hala Alqatari – UT Austin (supervisor: Prof. Mrinal Sen);
 - 2017 - Aly Abdelaziz – University of Toronto (supervisor: Prof. Giovanni Grasselli);
 - 2017 - Shawn Lee – UT Austin (supervisor: Prof. Daniella Rempe);

Supervised students

- 2020- : **Carolyn Bland**, M.Sc. candidate at UT Austin. Research topic: physical properties of rocks in the Hikurangi (NZ) subduction zone.
- 2016 - : **Eric Goldfarb**, Ph.D. candidate at UT Austin. Research topics: Digital Rock Physics;
- 2016 - : **Ken Ikeda**, Ph.D. candidate at UT Austin. Research topics: Digital Rock Physics and Attenuation in fractured rocks;
- 2018 - : **Omar Alamoudi**, Ph.D. candidate at UT Austin. Research topics: Digital Rock Physics in combination with permeability and damage evolution in tight rocks;
- 2018 - : **Carole Lakrout**, Undergraduate student at UT Austin. Research topic: morphology of speleothems from Asperge cave (France) and Breezeway cave (Colorado).

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- 2020- : **Mason Currin**, Undergraduate student at UT Austin. Research topics: designing a new inexpensive but accurate geophone based seismometer and acquiring seismic data during football games at UT Austin.
- 2018 – 2019: **Ziqi Jin**, visiting Ph.D. candidate at China University of Petroleum, Beijing. Research topic: *Experimental study of the rheology of bubbly fluids*;
- 2017-2019, **Michael McCann** (co-supervised with Prof. Kyle Spikes) Master Student at UT Austin now at Fecon US. Thesis: *Low-Frequency Attenuation Measurements of Fluids*;
- 2015 – 2017, **Dr. Qi Zhao** (co-supervised with Prof. Giovanni Grasselli) Ph.D. at University of Toronto, now at UC Berkeley. Thesis: *Investigating brittle rock failure and associated seismicity using laboratory experiments and numerical simulations*;
- 2013, **Kathrin Rieger** (co-supervised with Prof. Jean-Pierre Burg and Dr. Ben Cordonnier) Master student of IDEA League Group: TU Delft, ETH Zurich, RWTH Aachen. Thesis: *From Brittle to Creep: Investigation of fault weakening tribology under linear loading rate*.

Honors and Awards

- 2017: Paper: *Tisato, N., Quintal, B., Chapman, S., Podladchikov, Y., & Burg, J. P. (2015). Bubbles attenuate elastic waves at seismic frequencies: First experimental evidence. Geophysical Research Letters, 42(10), 3880-3887.*, nominated **paper of the month in EGU blogs**, January 27, <https://blogs.egu.eu/divisions/sm/2017/01/27/paper-of-the-month-bubbles-and-seismic-waves/>
- 2014: The presentation and the paper titled “*Seismic Wave Attenuation in Fluid-Saturated Rock as Result of Gas Dissolution*” was judged ranking among the **top 30 papers presented at the SEG Annual Meeting, Denver (CO)** (among >1500 contributions);
- 2013: The presentation and the paper titled “*Interpreting attenuation in partially saturated sandstone using measurements of local fluid pressure and numerical modeling of fluid flow in poroelastic media*” was judged ranking among the **top 30 papers presented at the SEG Annual Meeting, Houston (TX)** (among >1400 contributions);
- 2013: **Best Student Paper, 2nd International Workshop of Rock Physics**, 4-9 August, Southampton (UK).

Current Funding

- 2020-2022: co-PI (PI: Dr. Harm Van Avendonk; co-PI: Dr. Nathan Bangs) - NSF GEOPRISMS program: *Study of the impact of seamount subduction on the outer wedge of the Hikurangi margin from combined lab analyses of rock properties and marine seismic data*;
- 2020-2021: Seed Grant from the Center for Planetary Systems Habitability at UT Austin. Identifying the microbiome associated with the Breezeway bio-mediated speleothems. (\$21,650);
- 2018 -: co-PI of EDGER forum (PI: Prof. Mrinal Sen; co-PI: Prof. Kyle Spikes). Company-sponsored consortium (\$40,000/company/year);
- 2017: Borehole seismic and hydraulic fracturing - Seismos inc. (\$8,000);
- In-kind support by Geomechanica inc. (Canada): 1 license of the geo-mechanical software IRAZU (<http://www.geomechanica.com/software>).

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Pending Funding

- 2019: co-PI (PI: Prof. Kyle Spikes; co-PI: Prof. Mrinal Sen) – DOD project: *Distributed acoustic sensing for near-surface seismic characterization*;
- 2019: co-PI (PI: Dr. Je'aime Powell; co-PI Dr. Kelly Pierce; co-PI Dr. Jay Banner; co-PI Dr. Tim Keitt) Planet Texas 2050 Internal UT Austin Funding: *μ P-STREAM: Micro-controller Platform Sending Telemetry Real-time for Earth's Adaptive Models*;
- 2019: co-PI (PI Prof. David Goldstein; co-PI Dr. Philip Varghese; co-PI Dr. Laurence Trafton; co-PI Dr. Marc Hesse; co-PI Dr. Arnaud Mahieux; co-PI Krista Soderlund) NASA project: *Development of a Canonical Enceladus Cryo-Geyser Plume Experiment and Matched Simulations*;

Past Funding

- 2018: Faculty Innovation Grant for experiential learning – UT Austin (\$ 5,400);
- 2017: Visiting Professor at the University of Toronto: Project. *Rock physics under micro-CT* (~12,000 \$);
- 2017: NVIDIA GPU grant: I received one high-ended GPU to perform calculations on large datasets (value ~\$1k);
- 2016-2019: co-PI (PI: Prof. Peter Flemings) – DOE project - *A multi-scale experimental investigation of flow properties in coarse-grained hydrate reservoirs during production*;
- 2016: Research Summer Assignment granted by the Jackson School of Geosciences: “*Visco-elastic properties of laboratory-scale faults*” (~20,000 \$);
- 2014 – 2015: Post-Doc grant: “*Experimental Rock Deformation under micro-CT - ERD μ* ,” granted by Swiss National Scientific Foundation and University of Toronto (~95,000 \$).

Languages

- **Italian:** Native speaker;
- **English:** Fluent;
- **German:** Basic (A1 level).

Invited talks

- September 3, 2020: **Energy Resources and Petroleum Eng. Workshop** - ANPERC – King Abdullah University for Science and Technology, Rock Physics: reservoir characterization and monitoring;
- June 18-19, 2020: **1st ISRD-RCN Workshop** - Cornell High Energy Synchrotron Source (CHESS), Rotary shear fault slip visualized by micro-tomography (recording at: <https://www.isrdrcn.org/workshops/chess-workshop-agenda/>);
- October 15, 2019: **University of Mainz (DE)**, Attenuation of seismic waves;
- July 4, 2019: **ENI Milan (IT)**, Attenuation of seismic waves;
- October 23, 2018: **INGV – Rome**, Attenuation of seismic waves;
- October 4, 2018: **University of Oklahoma**, Shell Colloquium;
- October 4, 2018: **University of Oklahoma**, Lunch'n learn;

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- May 30, 2018: **Equinor** (ex Statoil) – Austin Texas: Attenuation of seismic waves in partially saturated rocks;
- May 24, 2018: **The University of Texas at Austin, Bureau of Economic Geology**: Attenuation of seismic waves in partially saturated rocks;
- Sept 29, 2017: **SEG general meeting post-workshop W14** (Evidence and understanding of frequency and scale dependencies of rock properties: Fabric, textures and rock physics modeling at reservoir scale): Seismic wave attenuation in nearly fully saturated sandstones;
- June 27, 2017: **University of Toronto Dept. of Geological Sciences**: Segmentation-less digital rock physics: rock properties from CT imagery;
- June 21, 2017: **Keynote Talk at the workshop “Improved reservoir characterization through rock physics and geomechanics”** organized by Dept. of Civil Eng. University of Toronto: Rock physics under micro-CT;
- June 14, 2017: **University of Toronto Dept. of Civil Eng**: Viscoelasticity of rocks;
- May 1, 2017: **Soft Rock Seminar at UT Austin**: Viscoelastic Properties of Montmorillonite and Monitoring of Nuclear Waste Repositories;
- April 20, 2017: **Texas Geophysical Society**: Viscoelastic Properties of Montmorillonite and Monitoring of Nuclear Waste Repositories;
- December 7, 2016: **Geophysical Society of Houston**: Seismic Wave Attenuation and Dispersion in Saturated Rocks;
- September 16, 2016: **Institute of Geophysics** – The University of Texas at Austin: Viscoelasticity of Rocks;
- July 19, 2016: **INGV** – Rome (IT): Viscoelasticity of Rocks;
- July 5 2016: **University of Perugia** (IT), Department of Geological Sciences: Viscoelasticity of Rocks;
- April 20, 2016: **EGU general meeting** – Vienna (AU): Viscoelasticity of multiphase fluids: future directions.
- April 19, 2016: **EGU general meeting** – Vienna (AU): Bubbles attenuate elastic waves at seismic frequencies;
- March 25, 2015: **The University of Texas at Austin**, Jackson School of Geosciences, Viscoelasticity and dynamic moduli of saturated rocks;
- February 23, 2015: **ExxonMobil** Corporate Strategic Research (CSR) laboratory: Viscoelasticity of saturated sandstones;
- February 11, 2015: Department of Geosciences - **Virginia Tech**: How rock-physics can contribute to ensuring a reliable and sustainable energy system;
- February 10, 2015: Department of Geosciences - **Virginia Tech**: The Water-Energy Nexus – Mapping subsurface gas-bubbles;
- March 18, 2014: Institute of Geophysics – **University of Toronto**: Seismic Attenuation at Low Frequencies in Partially Saturated Rocks;
- September 5, 2013: **Schlumberger** Stavanger Research Center (Norway): Low-frequency attenuation, ultrasonic velocities and local pore pressure effects: overview on part of my research in the last four years;

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- December 7, 2012: **TOTAL** - Pau (Fr): Measuring and understanding seismic wave attenuation at 'low' frequencies.
- November 22, 2012: **INGV**- Rome (IT): Measuring and understanding seismic wave attenuation at 'low' frequencies;
- May 4, 2012: Institute of Geophysics – **University of Lausanne**: Attenuation at low frequencies in partially saturated rocks;

Publications (Supervised students: **bold underlined**)

- In preparation (3) –

1. **Tisato N.**, C. Madonna and E. H. Saenger, Attenuation of seismic waves in partially saturated Berea sandstone as a function of frequency and confining pressure, to be submitted to *Frontiers in Earth Sciences*;
2. **Ikeda K.**, Subramaniyan, S., Quintal B., Saenger E., and **Tisato N.**, Elastic properties of a dolomite limestone from low-frequency sub-resonance and digital rock physics testing, to be submitted to *Frontiers in Earth Sciences*;
3. **Goldfarb E.J.**, **Ikeda K.**, **Alamoudi O.**, Ketcham R. A., Prodanović M., and **Tisato N.**, Acquiring Computed Tomography Scans for Digital Rock Physics Models, to be submitted to *Computers and Geosciences*;

- Submitted (1) –

1. **Goldfarb E.J.**, **K. Ikeda**, R. A. Ketcham, M. Prodanović and **N. Tisato**, Targeted Computed Tomography: Predictive Rock Models Without Segmentation, submitted to *Computers and Geosciences*;

- 2020 (3) –

1. Chen, X., Espinoza, D. N., Luo, J. S., **Tisato, N.**, & Flemings, P. B. (2020). Pore-scale evidence of ion exclusion during methane hydrate growth and evolution of hydrate pore-habit in sandy sediments. *Marine and Petroleum Geology*, 117, 104340. <https://doi.org/10.1016/j.marpetgeo.2020.104340>
2. **Ikeda, K.**, **Goldfarb, E. J.**, & **Tisato, N.** (2020). Calculating Effective Elastic Properties of Berea Sandstone Using the Segmentation-Less Method Without Targets. *Journal of Geophysical Research: Solid Earth*, 125(6). <https://doi.org/10.1029/2019JB018680>
3. Zhao, Q., Glaser, S. D., **Tisato, N.**, & Grasselli, G. (2020). Assessing Energy Budget of Laboratory Fault Slip Using Rotary Shear Experiments and Micro-Computed Tomography. *Geophysical Research Letters*, 47(1). <https://doi.org/10.1029/2019GL084787>

- 2019 (3) –

4. Ramos, M. J., Espinoza, D. N., **Goldfarb, E. J.**, **Tisato, N.**, Laubach, S. E., & Torres-Verdín, C. (2019). Microstructural controls on elastic anisotropy of finely laminated Mancos Shale. *Geophysical Journal International*, 216(2), 991–1004. <https://doi.org/10.1093/gji/ggy474>
5. Faccenda, M., Ferreira, A. M. G., **Tisato, N.**, Lithgow-Bertelloni, C., Stixrude, L., & Pennacchioni, G. (2019). Extrinsic elastic anisotropy in a compositionally heterogeneous Earth's mantle. *Journal of Geophysical Research: Solid Earth*.

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<https://doi.org/10.1029/2018JB016482>

6. Spikes, K. T., **Tisato, N.**, Hess, T. E., & Holt, J. W. (2019). COMPARISON OF GEOPHONE AND SURFACE-DEPLOYED DAS SEISMIC DATA. *GEOPHYSICS*, 1–21.
<https://doi.org/10.1190/geo2018-0528.1>

- 2018 (3) -

7. **Zhao, Q.**, **Tisato, N.**, Kovaleva, O., & Grasselli, G. (2018). Direct observation of faulting by means of rotary shear tests under X-ray micro-computed tomography. *Journal of Geophysical Research: Solid Earth*. <https://doi.org/10.1029/2017JB015394>.
8. Chapman, S., Quintal, B., Holliger, K., Baumgartner, L., & **Tisato, N.** (2018). Laboratory measurements of seismic attenuation and Young's modulus dispersion in a partially and fully water-saturated porous sample made of sintered borosilicate glass: *Geophysical Prospecting*. <https://doi.org/10.1111/1365-2478.12643>.
9. De Waele, J., D'Angeli, I. M., Bontognali, T., Tuccimei, P., Scholz, D., Jochum, K. P., A. Columbu, S. M. Bernasconi, J. J. Fornos, E. R. G. Gonzales & **N. Tisato** (2018). Speleothems in a north Cuban cave register sea-level changes and Pleistocene uplift rates: North Cuban cave registers sea-level changes and Pleistocene uplift. *Earth Surface Processes and Landforms*. <https://doi.org/10.1002/esp.4393>.

-2017 (5)-

10. De Siena, L., G. Chiodini, G. Vilardo, E. Del Pezzo, M. Castellano, S. Colombelli, **N. Tisato**, and G. Ventura (2017), Source and dynamics of a volcanic caldera unrest: Campi Flegrei, 1983–84, *Scientific Reports*, 7(1), doi:10.1038/s41598-017-08192-7.
11. Lupi, M., M. Frehner, P. Weis, A. Skelton, E. H. Saenger, **N. Tisato**, S. Geiger, G. Chiodini, and T. Driesner (2017), Regional earthquakes followed by delayed ground uplifts at Campi Flegrei Caldera, Italy: Arguments for a causal link, *Earth and Planetary Science Letters*, 474, 436–446, doi:10.1016/j.epsl.2017.07.006.
12. **Zhao, Q.**, **N. Tisato**, and G. Grasselli (2017), Rotary shear experiments under X-ray micro-computed tomography, *Review of Scientific Instruments*, 88(1), 015110, doi:10.1063/1.4974149.
13. De Waele, J., I. M. D'Angeli, **N. Tisato**, P. Tuccimei, M. Soligo, G. Joaquin, A. Gines, J. J. Fornos, I. M. Villa, G. G. Esteban, S. M. Bernasconi, T. R. R. Bontognali (2017), Coastal uplift rate at Matanzas (Cuba) inferred from MIS5e phreatic overgrowths on speleothems, *Terra Nova*, doi:10.1111/ter.12253.
14. Chapman, S., B. Quintal, **N. Tisato**, and K. Holliger (2017), Frequency scaling of seismic attenuation in rocks saturated with two fluid phases, *Geophysical Journal International*, 208(1), 221–225, doi:10.1093/gji/ggw387.

-2016 (4)-

15. Chapman, S., **N. Tisato**, B. Quintal, and K. Holliger (2016), Seismic attenuation in partially saturated Berea sandstone submitted to a range of confining pressures: seismic attenuation in Berea sandstone, *Journal of Geophysical Research: Solid Earth*, 121(3), 1664–1676, doi:10.1002/2015JB012575.
16. Sun, L. F., B. Milkereit, and **N. Tisato**, Analysis of velocity dispersion using full-waveform multichannel sonic logging data: A case study: Analyzing velocity dispersion, *Geophysical Prospecting*, 64(4), 1016–1029, doi:10.1111/1365-2478.12410.

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17. **Biryukov, A., N. Tisato**, and G. Grasselli, Attenuation of elastic waves in bentonite and monitoring of radioactive waste repositories, *Geophysical Journal International*, 205(1), 105–121, doi:10.1093/gji/ggv548.
18. Bontognali, T. R. R., I. M. D'Angeli, **N. Tisato**, C. Vasconcelos, S. M. Bernasconi, E. R. G. Gonzales, and J. De Waele (2016), Mushroom Speleothems: Stromatolites That Formed in the Absence of Phototrophs, *Frontiers in Earth Science*, 4, doi:10.3389/feart.2016.00049.
-2015 (5)-
19. **Tisato N.**, Torriani S., Monteaux S., Sauro F., De Waele J., Tavagna M. L., D'Angeli I. M., Chailloux D., Renda D., Eglinton T., Bontognali T. R. R., Microbial mediation of complex subterranean mineral structures, *Scientific Reports*, 5, 15525, doi:10.1038/srep15525.
20. Zhao, Q., **N. Tisato**, G. Grasselli, O. K. Mahabadi, A. Lisjak, and Q. Liu (2015), Influence of *in situ* stress variations on acoustic emissions: a numerical study, *Geophysical Journal International*, 203(2), 1246–1252, doi:10.1093/gji/ggv370.
21. Goodfellow, S. D., **N. Tisato**, M. Ghofranitabari, M. H. B. Nasser, and R. P. Young: Attenuation Properties of Fontainebleau Sandstone During True-Triaxial Deformation using Active and Passive Ultrasonics, *Rock Mechanics and Rock Engineering*, doi:10.1007/s00603-015-0833-8.
22. **Tisato N.**, B. Quintal, Chapman S., Y. Podladchikov, J-P. Burg: Bubbles attenuate seismic waves: first experimental evidence, *Geophysical Research Letters*, 42, 3880-3887. Doi: 10.1002/2015GL063538.
23. D'Angeli, I. M., J. De Waele, O. C. Melendres, **N. Tisato**, F. Sauro, E. R. G. Gonzales, S. M. Bernasconi, S. Torriani, and T. R. R. Bontognali (2014), Genesis of folia in a non-thermal epigenic cave (Matanzas, Cuba), *Geomorphology*, doi:10.1016/j.geomorph.2014.09.006.
-2014 (7)-
24. **Biryukov, A., N. Tisato**, and G. Grasselli (2014), Workflow to numerically reproduce laboratory ultrasonic datasets, *Journal of Rock Mechanics and Geotechnical Engineering*, 6(6), 582–590, doi:10.1016/j.jrmge.2014.10.002..
25. **Tisato, N.**, and B. Quintal (2014), Laboratory measurements of seismic attenuation in sandstone: Strain versus fluid saturation effects, *Geophysics*, 79(5), WB9–WB14, doi:10.1190/geo2013-0419.1.
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2. **Nicola Tisato**, Christopher Harbord, Elena Spagnuolo, Giuseppe Di Stefano and Giulio Di Toro, A new apparatus to study visco-elastic properties in large displacement experimental faults, AGU fall meeting 2019;
3. **Eric J Goldfarb**, Scott A Eckley, **Ken Ikeda**, Richard A Ketcham, Omar Alamoudi and Nicola Tisato, A Novel Way to Estimate Wave Speeds of Extraterrestrial Rocks, AGU fall meeting 2019;
4. Benjamin Koenigs, Nathan Ross Miller, **Nicola Tisato**, Darrel M. Tremaine; Development of a Speleothem-Analogue Drip Sensor, AGU fall meeting 2019;
5. Q. Zhao, **N. Tisato**, G. Grasselli, S. D. Glaser, (2019) Assessing energy budget of laboratory fault slip using quantitative micro-CT image analysis, American Rock Mechanics Association 53rd US Rock Mechanics / Geomechanics Symposium, New York (NY)
6. **Eric Goldfarb**, Logan Schmidt, **Ken Ikeda**, **Omar Alamoudi**, Daniella Rempe, and Nicola Tisato, (2019) Fractured Bedrock Hydrogeologic Characterization Using Digital Rock Physics, ACE AAPG meeting, San Antonio (TX)
7. **Ken Ikeda**, **Eric Goldfarb**, Nicola Tisato, (2019) Convolutional Neural Networks for Semantic Segmentation of Micro-Pores in SEM Based Images of Shales, ACE AAPG meeting, San Antonio (TX)
8. **Ken Ikeda**, Shankar Subramaniyan, Beatriz Quintal, Erik Saenger, **Eric J Goldfarb** and Nicola Tisato, (2018) Numerical and Laboratory Study of Low-frequency Elastic Properties of Limestone, AGU fall meeting, MR23A-01.
9. Xiongyu Chen, Nicolas Espinoza, **Nicola Tisato** and Peter B Flemings, (2018) X-ray micro-CT observation of methane hydrate growth and dissociation in sandy sediments, AGU Fall meeting, H41K-2231
10. **Eric J Goldfarb**, **Ken Ikeda**, Richard A Ketcham and Nicola Tisato, (2018) Estimating Properties from Millimetric Sized Rock Cuttings Using Micro Computed Tomography (CT), AGU Fall meeting, H41K-2214.
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13. **Q. Zhao**, N. Tisato, G. Grasselli, S. D. Glaser, (2017) Rotary shear test under X-ray microcomputed tomography, 52nd ARMA Symposium, Seattle (Wa)"
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