

ALLEGATO B

UNIVERSITÀ DEGLI STUDI DI MILANO

selezione pubblica per n. 1 posto/i di Ricercatore a tempo determinato ai sensi dell'art.24, comma 3, lettera b) della Legge 240/2010 per il settore concorsuale 04/A1 Geochimica, Mineralogia, Petrologia, Vulcanologia, Georisorse ed Applicazioni, settore scientifico-disciplinare GEO/06 - Mineralogia presso il Dipartimento di Scienze della Terra Ardito Desio (avviso bando pubblicato sulla G.U. n. 35 del 04/05/21 Codice concorso 4636)

Marco Voltolini **CURRICULUM VITAE**

(N.B. IL CURRICULUM NON DEVE ECCEDERE LE 30 PAGINE E DEVE CONTENERE TUTTI GLI ELEMENTI UTILI ALLA VALUTAZIONE DEI TITOLI SOTTOPOSTI AL GIUDIZIO DELLA COMMISSIONE)

INFORMAZIONI PERSONALI (NON INSERIRE INDIRIZZO PRIVATO E TELEFONO FISSO O CELLULARE)

COGNOME	VOLTOLINI
NOME	MARCO
DATA DI NASCITA	12 06 1975

TITOLI

TITOLO DI STUDIO

(indicare la Laurea conseguita inserendo titolo, Ateneo, data di conseguimento, ecc.)

Laurea in Scienze della Terra, Università degli Studi di Milano, 06/2001

TITOLO DI DOTTORE DI RICERCA O EQUIVALENTI, OVVERO, PER I SETTORI INTERESSATI, DEL DIPLOMA DI SPECIALIZZAZIONE MEDICA O EQUIVALENTE, CONSEGUITO IN ITALIA O ALL'ESTERO

(inserire titolo, ente, data di conseguimento, ecc.)

Dottore di Ricerca in Scienze della Terra, Università degli Studi di Milano, 02/2006

ATTIVITÀ DIDATTICA A LIVELLO UNIVERSITARIO IN ITALIA O ALL'ESTERO

(inserire anno accademico, ateneo, corso laurea, ecc.)

DOCUMENTATA ATTIVITÀ DI FORMAZIONE O DI RICERCA PRESSO QUALIFICATI ISTITUTI ITALIANI O STRANIERI;

(inserire anno accademico, ente, corso, ecc.)

- November 2019 – Present: Research Scientist (Career) at the Lawrence Berkeley National Laboratory. Core research is to develop techniques, from instrumentation to data processing and simulations, for nano- and micro- X-ray imaging. Applied topics mainly involve shales (hydraulic fracturing, caprocks for CO₂ geosequestration, barriers

for nuclear waste) and near equilibrium geological processes (e.g. fluid-mediated compaction in rocks). These activities also included the preparation and submission of new and continuing funding proposals. One of the projects includes the program building a new hard XR nanotomography beamline at ALS currently in the commissioning stage.

- *June 2017 – October 2019*: Senior Scientific Engineering Associate (Career) at the Lawrence Berkeley National Laboratory. The core of the research was the development of setups, from hardware to software, for 4D synchrotron X-ray microCT.

- *June 2012 – May 2017*: Project Scientist (Career-track) at the Lawrence Berkeley National Laboratory. The main research topic was the 3D (and 4D) characterization via X-ray microtomography of materials related to the CO₂ geological sequestration and exploitation of unconventional resources such as oil and gas shales (pyrolysis and hydraulic fracturing). The job included complementary techniques for the characterization of samples (SEM/EDS, XRPD, Hg porosimetry, etc.) and development of new data analysis and modeling software tools. This activity (as well as the following ones at ALS) included the successful submission of two Applied Programs at ALS to grant a continuous access to the facility. Funding proposals writing (both renewals and new submissions e.g. for building the new HPHT in situ cells) were a fundamental part of the activity.

- *July 2010 – May 2012*: Postdoctoral fellowship from the "Università di Padova". Main focus was the development of the "pencil beam" diffraction tomography technique aimed at studying the effect of additives in the cement hydration processes. I was long-term project visiting postdoc at the ID22 beamline, European Synchrotron Radiation Facility, Grenoble.

- *Jan. 2009 – June 2010*: Postdoctoral fellowship at the SYRMEP beamline at the Elettra synchrotron about X-Ray microtomography, with special focus on the quantitative analysis of data.

- *Nov. 2006 – Nov. 2008*: Postdoctoral fellowship (Earth and Planetary Science Department at UC Berkeley) about texture analysis by means of diffraction techniques on clays, shales, bones, high pressure and temperature experiments, using synchrotron X-rays, neutrons and electrons (TEM and EBSD) probes.

- *Jan. 2006 – Nov 2006*: Postdoctoral fellowship at the Università degli Studi di Milano about cement hydration and alteration processes kinetics (XRPD) and synchrotron X-ray microtomography.

- *Nov. 2002 – Jan. 2006*: Ph.D. research (supervisor prof. Gilberto Artioli) at the Università degli Studi di Milano (partnership with EniTecnologie and Politecnico di Milano) about H₂S-rich fluids reactivity with different rock materials, focusing on the geological sequestration (and tracing) of sour gas (using mostly XRPD and XR microtomography both with lab and synchrotron radiation sources).

- *Jan. 2002 – Nov. 2002*: Ph.D. research (supervisor prof. Martin Kunz) at Mineralogische-Petrographisches Institut der Universität Basel (CH) concerning XRD studies on metamict zircon annealing at high pressure (diamond anvil cell XRD).

- *Oct. 2001 – Dec. 2001*: Post-lauream grant at the Università degli Studi di Milano to study zeolites dissolution kinetics using Atomic Force Microscopy and development of a controlled temperature fluid-cell. Hydrothermal synthesis of synthetic zeolites was also part of the work.

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DOCUMENTATA ATTIVITÀ IN CAMPO CLINICO

(indicare, data, durata, ruolo, ente presso il quale si è prestata attività assistenziale, ecc.)

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REALIZZAZIONE DI ATTIVITÀ PROGETTUALE

(indicare, data, progetto, ecc.)

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ORGANIZZAZIONE, DIREZIONE E COORDINAMENTO DI GRUPPI DI RICERCA NAZIONALI E INTERNAZIONALI, O PARTECIPAZIONE AGLI STESSI

(per ciascuna voce inserire anno, ruolo, gruppo di ricerca, ecc.)

Co-PI o membro in progetti di ricerca del DOE: ESD14089: “Numerical and Laboratory Investigations for Maximization of Production from Tight/Shale Oil Reservoirs: From Fundamental Studies to Technology Development and Evaluation”, DE-AC02-05CH11231: Center for Nanoscale Control of Geologic CO₂ (NCGC), FWP FP00008049 “A New Framework for Microscopic to Reservoir-Scale Simulation of Hydraulic Fracturing and Production: Testing with Comprehensive Data from HFTS and Other Hydraulic Fracturing Field Test Sites”.

TITOLARITÀ DI BREVETTI

(per ciascun brevetto, inserire autori, titolo, tipologia, numero brevetto, ecc.)

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ATTIVITÀ DI RELATORE A CONGRESSI E CONVEGNI NAZIONALI E INTERNAZIONALI

(inserire titolo congresso/convegno, data, ecc.)

- How the development of new in situ X-ray capabilities is key for Earth and Energy Sciences studies: three different examples on oil shales

Voltolini M., Ajo-Franklin J. 2020 [In-situ Studies of Rock Deformation Workshop](#) (NSF Research Coordination Network) Cornell High Energy Synchrotron Source. *(Invited)*

- How in situ imaging helps in avoiding further in situ imaging: the development of a predictive tool for virtual experiments in the CO₂ geological sequestration field.

Voltolini, M., Kwon T.-K., Ajo-Franklin J., Oct. 2019. CAMERA workshop, LBNL. *(Invited)*

- In situ environmental cells for Hard X-ray micro-Tomography on ALS-beamline 8.3.2

MacDowell L., A.A., Parkinson, D.Y., Barnard, H.S., Haboub, A., Cox, B., Marshall, D., Panerai, F., Bale, H., Nasiatka, J. R., Ajo-Franklin, J., Voltolini, M., Mansour, N.N., Ritchie, R.O., 2019. Lab-Wide Instrumentation
Poster Session. LBNL

- Geochemical alteration of shale fractures and the bordering rock matrix.

Deng, H., Voltolini, M., Cheshire, M., Molins, S., Steefel, C., DePaolo, D., Ajo-Franklin, J., Stack, A. and Anovitz, L., 2019, March. In *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY* (Vol. 257). 1155 16TH ST, NW, WASHINGTON, DC 20036 USA: AMER CHEMICAL SOC.

- Particulate Matter & Treatment of Production Water for Beneficial Reuse

Lee J.Y., Stringfellow W., Voltolini M., Spycher N., Miller D., Fox P., 2019. Advanced Light Source Water-Energy Outreach Forum, Lawrence Berkeley National Laboratory, CA. *(invited)*

- Sustainability of hydraulic fracture conductivity in ductile and expanding shales.

Nakagawa S.S.B., Kneafsey T., Rutqvist J., Kim K., Voltolini M., 2018. DOE Mastering the subsurface through technology innovation, partnerships & collaboration: Carbon storage & oil & natural gas technologies review meeting, Pittsburgh.

- Pore-scale investigations into the stability of residual CO₂.

Garing, C., de Chalendar, J.A., Voltolini, M., Ajo-Franklin, J.B. and Benson, S.M., 2017, November. In *APS Meeting Abstracts*.

- Does enhanced characterization of reactive surface area improve prediction of mineral reaction rates in porous media?

Beckingham, L., Steefel, C., Mitnick, E., Swift, A., Voltolini, M., Yang, L., Anovitz, L., Sheets, J., Kneafsey, T., Cole, D. and Zhang, S., 2017, April. In *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY* (Vol. 253). 1155 16TH ST, NW, WASHINGTON, DC 20036 USA: AMER CHEMICAL SOC.

- Investigation of Coupled Processes and Impact of High Temperature Limits in Argillite Rock: FY17 Progress.

L Zheng, J Rutqvist, H Xu, K Kim, M Voltolini, X Cao. 2017. <http://escholarship.org/uc/item/3xp586f6>

- Laboratory Determination of Fracture Sustainability in EGS Systems.

TJ Kneafsey, S Nakagawa, PF Dobson, SE Borglin, M Voltolini, JT Smith, L Yang, EL Sonnenthal. 2016. Proceedings of the 41st Workshop on Geothermal Reservoir Engineering, Stanford University, Stanford, California.
<https://pangea.stanford.edu/ERE/db/GeoConf/papers/SGW/2016/Kneafsey.pdf>

- Flowing CO₂ in a fractured shale: effect of flow, fluid chemistry, and proppant on the evolution of the surfaces, as monitored by in situ synchrotron X-ray microtomography
 Voltolini M., Ajo-Franklin J.B. and Yang L.. 2016. AGU Fall Meeting Abstracts.
- Current strengths and limitations of synchrotron X-ray microtomography in revealing and quantifying deformation and metamorphic processes in crystalline rocks at the microscale.
 Zucali M., Mancini L. and Voltolini M. 3rd International Conference on Tomography of Materials and Structures. Lund, Sweden, 26-30 June 2017, ICTMS2017-89
- Pore Network Simulation of Supercritical Carbon Dioxide Invasion in Domengine Sandstone.
 Jeon M.-K., Kwon T.-H., Voltolini M. and Ajo-Franklin. 017 ISRM Young Scholars' Symposium on Rock Mechanics (YSRM 2017) Jeju, Korea.
- Microbial and environmental arrangements in the gut of the wood-feeding beetle *Odontotaenius disjunctus* illustrate mechanisms for energy and nutrient extraction from lignocellulose.
 Javier A. Ceja-Navarro, Ulas Karaoz, Zhao Hao, Richard White, Mary Lipton, Joshua N. Adkins, Marco Voltolini, Timothy R. Filley, Meredith Blackwell, Jennifer Pett-Ridge and Eoin L. Brodie. 2017 Society for Industrial Microbiology and Biotechnology Annual Meeting and Exhibition
- Synchrotron x-ray micro-tomography for in-situ studies of dynamic microstructural evolution of materials at high temperatures and pressures.
 H.S. Barnard, A.A. MacDowell, D. Parkinson, N.M. Larson, F. Zok, F. Parerai, N. Mansour, M. Czabaj, R.O. Ritchie, M. Voltolini, J. Ajo-Franklin 2017 SPIE Developments in X-Ray Tomography XI.
- The role of 4D synchrotron X-ray microtomography in the unconventional oil&gas exploitation research
 M. Voltolini; J. Ajo-Franklin and H. Barnard. TAS Students Sponsored Meeting: 21/22 March 2016, Cambridge, MA.
- The evolution of fractures in an oil shale from in situ synchrotron XR-microtomography experiments at different conditions: results and general implications for geological CO₂ sequestration and unconventional oil recovery
 M. Voltolini; J. Ajo-Franklin and L. Yang. Energy Resources Engineering Seminar, May 2nd 2016, Stanford University. (*invited seminar*)
- Laboratory Determination of Fracture Sustainability in EGS Systems
 T. J Kneafsey; S. Nakagawa; P. F Dobson; S. E Borglin; M. Voltolini; J. Torquil Smith; L. Yang; E. L Sonnenthal (2016). Proceedings, 41st Workshop on Geothermal Reservoir Engineering, Stanford University, Stanford, California, February 22-24, 2016 SGP-TR-209.
- The emerging Role of 4D Synchrotron X-Ray Microtomography related to Climate and Fossil Energy Studies
 M. Voltolini, J. Ajo-Franklin, S. Benson, S. Dou, J. Geller, A. Haboub, A. MacDowell, D. Parkinson, L. Zuo.
[Stanford Center for Carbon Storage seminar series. 2015 \(invited seminar\)](#)
- Evaluation of Advanced Reactive Surface Area Estimates for Improved Prediction of Mineral Reaction Rates in Porous Media
 L. Beckingham, E. Mitnick, S. Zhang, M. Voltolini, L. Yang, C. Steefel, A. Swift, D. Cole, J. Sheets, T. Kneafsey, G. Landrot, L. Anivitz, S. Mito, Z. Xue, J. Ajo-Franklin, D. DePaolo.
 AGU Fall Meeting 2015
- New Insights into Fracture Evolution in Rocks Relevant to the Geological Carbon Sequestration from *In Situ* Synchrotron X-ray Microtomography
 M. Voltolini, L. Yang, J. Ajo-Franklin
 AGU Fall Meeting 2015
- Multi-scale X-ray Microtomography Imaging of Immiscible Fluids After Imbibition
 C. Garing, J. De Chandelar, M. Voltolini, J. Ajo-Franklin, S. Benson
 AGU Fall Meeting 2015
- Simulating the evolution of fracture surface alteration exposed to CO₂-acidified brine
 H. Deng, C. Steefel, S. Molins, D. DePaolo, J. Ajo-Franklin, M. Voltolini
 AGU Fall Meeting 2015
- Self-sealing or self-enhancing? Observations of fracture evolution during CO₂ induced dissolution at *in-situ* conditions using synchrotron microtomography
 M. Voltolini, J. Ajo-Franklin, L. Yang, S. Molins-Rafa, H. Deng, D. Trebotich, C. Steefel.
 NCGC Symposium, 2015. Berkeley, CA.
- Mechanisms and Rates of Dolomite Dissolution from Single-Crystal Surface Microscopic Analysis
 G. Saldi, M. Voltolini, K. Knauss
 Godschmidt 2015, Prague (CZ).

- The Evolution of Fractures in Rocks Relevant to CO₂ Geological Sequestration: a 4D Synchrotron X-Ray MicroCT Study
M. Voltolini, L. Yang, J. Ajo-Franklin
 ALS User Meeting, 2015.
- The characterization of the microstructure of geological materials: an example of analysis on a sandstone sample relevant for CO₂ Geological Sequestration measured via SXR-microCT
M. Voltolini, TH Kwon, J. Ajo-Franklin
 ALS User Meeting 2015. (*Invited seminar*)
- The Evolution of a Fracture in a Dolomite Sample During Dissolution Induced by a CO₂-Saturated Solution Flow at Reservoir Conditions: a Dynamic Synchrotron X-Ray Microtomography Study
M. Voltolini, L. Yang, J.B. Ajo-Franklin
 AGU Fall Meeting 2014
- A Highly Resolved Direct Numerical Simulation Model of Reactive Transport at the Pore Scale
 S. Molins, D. Trebotich, T.J. Ligocki, M. Voltolini, L. Yang, J.B. Ajo Franklin, C.I. Steefel
 AGU Fall Meeting 2014
- Quantitative texture analysis of talc in mantle hydrated mylonites
 J.M. Benitez-Perez, J. Gomez Barreiro, H.R. Wenk, S.C. Vogel, Y. Soda, M. Voltolini, J.R. Martinez-Catalan
 AGU Fall Meeting 2014
- In situ phase mapping by X-ray diffraction microtomography: applications to cement materials.
 L. Valentini, G. Artioli, M.C. Dalconi, M. Parisatto, M. Voltolini, G. Ferrari
 IMA 2014, 21st General Meeting of IMA, Johannesburg, South Africa 1-5 September 2014. Abst. Vol. 296.
- The role of advanced reactive surface area characterization in improving predictions of mineral reaction rates.
 L. E. Beckingham, S. Zhang, E. Mitnick, D.R. Cole, L. Yang, L.M. Anovitz, J. Sheets, A. Swift, M. Voltolini, T.J. Kneafsey, G. Landrot, S. Mito, Z. Xue, C.I. Steefel, D.J. DePaolo, J.B. Ajo-Franklin.
 AGU Fall Meeting 2014
- Understanding the role of the evolution of fractures in rocks relevant to CO₂ geological sequestration: a time-resolved SXR-μCT study on a dolomite sample
M. Voltolini, J. Ajo-Franklin, L. Yang, S. Molins-Rafa, D. Trebotich, C. Steefel.
 NCGC Symposium, 2014. Berkeley, CA.
- The emerging Role of 4D Synchrotron X-Ray Microtomography related to Climate and Fossil Energy Studies
M. Voltolini, J. Ajo-Franklin, S. Benson, S. Dou, J. Geller, A. Haboub, A. MacDowell, D. Parkinson, L. Zuo.
 APS User Meeting, 2014. Chicago. (*invited*)
- Geological Carbon Sequestration: New Insights from In-Situ Synchrotron X-Ray Microtomography
M. Voltolini, T.-H. Kwon, J.B. Ajo-Franklin.
 BES Triennial Ops Review of the ALS, 2014, Berkeley, CA.
- Quantitative characterization of soil micro-aggregates: new opportunities from sub-micron resolution synchrotron X-ray microtomography
M. Voltolini, N. Taş, S. Wang, E.L. Brodie, J.B. Ajo-Franklin
 Complex Soil Systems, 2014. Berkeley, CA.
- L. Zuo, J. Ajo-Franklin, M. Voltolini, J. Geller, S. Benson. "Investigation of CO₂ Exsolution in Porous Media and the Impact on Water Relative Permeability".
 GCEP Research Symposium 2013. Stanford, CA.
- Monitoring the dissolution of a limestone in CO₂-rich brine using 4D synchrotron XR microtomography: impact on single and multiphase flow parameters.
M. Voltolini, and J. B. Ajo Franklin.
 NCGC Symposium, 2013. Berkeley, CA.
- Experimental development of low-frequency shear modulus measurements during flow-through CO₂ induced dissolution.
 Saltiel, S., B. P. Bonner, M. Voltolini, and J. B. Ajo Franklin.
 In *AGU Fall Meeting Abstracts*, vol. 1, p. 2437. 2013.
- Chlorite reactivity and contribution to flow path modifications under conditions relevant for CO₂ sequestration.
 Beckingham, L. E., L. Yang, J. B. Ajo Franklin, M. Voltolini, J. L. Banuelos, L. M. Anovitz, I. C. Bourg, and C. I. Steefel.
 In *AGU Fall Meeting Abstracts*, vol. 1, p. 1432. 2013.
- Monitoring the Dissolution of a Limestone in CO₂-rich Brine Using 4D Synchrotron Microtomography: Impact on Single and Multiphase Flow Parameters
Voltolini, M., and J. B. Ajo Franklin.

In *AGU Fall Meeting Abstracts*, vol. 1, p. 2762. 2013.

- Spherulites in Trachytic Melts

Arzilli, F., M. Voltolini M, L.Mancini L, M.R. Cicconi, G. Giuli and M.R. Carroll. Goldschmidt 2013. Florence. Italy.
Mineralogical Magazine, 77(5) 622.

- Tomographic imaging of nano-seed nucleation in cement pastes

G. Artioli, M.C. Dalconi, G. Ferrari, M. Parisatto, V. Russo, L. Valentini, M. Voltolini
EUROMAT 2013 Sevilla.

- Spherulites growth in trachytic melts: a textural quantitative study from synchrotron X-ray microtomography and SEM data F.

Arzilli, L. Mancini, G. Giuli, M.R. Cicconi, M. Voltolini and M.R. Carroll
EGU General Assembly Conference Abstracts, vol. 15, p. 5371. 2013

- Mapping the soil heterogeneity at the microbial scale

Neslihan Taş, Scott Clingenpeel, Giovanni Birarda, Marco Voltolini, Jonathan Ajo-Franklin, Shi Wang, Zaw Ye, Hoi-Ying Holman, Tanja Woyke, Manfred Auer, William Moses, Peter Nico, Jim O'Neil, Janet K. Jansson and Eoin L. Brodie
Gordon Research Conferences: Applied and Environmental Microbiology. 2013, South Hadley, MA.

- Upgrade of the X-ray powder diffraction station at beamline GILDA-BM08 of the ESRF A. Trapananti, A. Rizzo, C. Maurizio, C. Meneghini, S. Mobilio, M. Merlini, M. Giacobbe, M. Voltolini, F. D'Acapito The 11th International Conference on Synchrotron Radiation Instrumentation, 2012, Lyon, France.

- Geological Carbon Sequestration: new insights from in-situ Synchrotron X-ray Microtomography

M. Voltolini, T.-H. Kwon, J.B. Ajo-Franklin
AGU 2012 Fall Meeting, San Francisco

- Texture and shape preferred orientation in mylonites developed under a complex kinematic frame: the Lalín-Forcarei thrust (NW Iberian Massif, Spain) J. Gomez Barreiro, M. Voltolini, J.R. Martinez-Catalan, H.-R. Wenk, S.C. Vogel, L. Mancini, R. Diez-fernandez

AGU 2012 Fall Meeting, San Francisco

- Chemically reactive acrylic superplasticizers

A. Biancardi, G. Del Zoppo, M. Dragoni, G.Ferrari, M. Gamba, V. Russo, G. Artioli, M. Voltolini
10th International conference of superplasticizers and other chemical admixtures in concrete. 2012 Prague

- Improving micro-CT accuracy on feature extraction through image upscaling.

M. Aurilia, M. D'Auria, M. Voltolini, L. Mancini, L. Sorrentino.
ECCM15 2012 Venice

- Imaging of nanoseeded nucleation in cement by diffraction tomography. Nanotech ITALY 2012, Venice, 21-23 G. Artioli, M.

Voltolini, L. Valentini, M.C. Dalconi, M. Parisatto, G. Ferrari, V. Russo
November 2012. Abstract Volume, p. 76-77.

- Quantitative analysis of the shape and crystallographic preferred orientation of a mylonitic orthogneiss from the Monte Rosa (Central Italian Alps): a combined neutron diffraction and X-ray synchrotron microtomography study.

M. Zucali, M. Voltolini, B. Ouladdiaf, L. Mancini
GIGS 2011

- The Pore3D software library applied to the quantitative morphological and textural analysis of three-dimensional images in geosciences

L. Mancini, F. Brun, D. Dreossi, G. Kourousias, M. Polacci, M. Voltolini, G. Tromba
EGU 2011

- G. Artioli, M. Parisatto, M.C. Dalconi, M. Voltolini, G. Ferrari

3D imaging of complex materials: the case of cements.

EUROMAT 2011, European Congress on Advanced Materials and Processes. Montpellier, France, 12-15 September 2011.
Symposium D12: "Tomographic 3D imaging with hard X-rays and neutrons". **[keynote talk]**

- Microtomography experiment for texture analysis: 3D shape orientation distribution function of crystals and vesicles in volcanic products

M. Voltolini, L. Mancini, D. Zandomenighi, D.R. Baker, M. Polacci
EGU 2010

- The Pore3D library package for the textural analysis of X-ray computed microtomographic images of rocks

D. Zandomenighi, L. Mancini, M. Voltolini, F. Brun, M. Polacci
EGU 2010

- Microstructural features of roasted coffee beans investigated by synchrotron X-ray microtomography.
P. Pittia, G. Sacchetti, L. Mancini, M. Voltolini, G. Tromba, N. Sodini, F. Zanini
IUFoST 2010, 15th World Congress of Food Science and Technology. 2010.
- Use of synchrotron X-ray microtomography to investigate microstructural properties of coffee beans as affected by water state
P. Pittia, G. Sacchetti, L. Mancini, M. Voltolini, G. Tromba, F. Zanini
Frontiers in Water Biophysics, 2010
- Comparative Study of Phyllosilicate Fabrics in Fault Gouge, Shale and Schist
M. Bortolotti, M. Voltolini, H.-R. Wenk
AGU 2008 Fall Meeting
- In-situ Laser Heating and Pressure Change With Radial Diffraction to Investigate Deformation of Deep Earth Relevant Minerals
L. Miyagi, M. Kunz, M. Voltolini, H.-R. Wenk
AGU 2008 Fall Meeting
- Deformation of MgSiO₃ perovskite at high pressure using diamond anvil cells and in- situ radial diffraction
L. Miyagi, M. Kunz, Y. Meng, M. Voltolini, H.-R. Wenk
AGU 2008 Fall Meeting
- Texture analysis of an Al-evaporated thin film with powder electron diffraction data
M. Gemmi, M. Voltolini, H.-R. Wenk
11th European Powder Diffraction Conference, 2008
- Structural Phase Transitions in AuIn₂ at High Pressure
S. M. Clark, S. Speziale, M. Voltolini, B. K. Godwal, R. Jeanloz
AGU 2007 Fall Meeting
- Anisotropy in Experimentally Compressed Kaolinite-Illite-Quartz Aggregates: Microstructure, Preferred Orientation and Acoustic Velocities
M. Voltolini, H.-R. Wenk, N. H. Mondol, K. Bjørlykke, J. Jahren
AGU 2007 Fall Meeting
- Ferrous clay interactions with a H₂S-rich fluid
M. Voltolini, G. Dotelli, G. Artioli, E. Previde Massara
Fourth Mediterranean Clay Meeting, 2006
- Microstructural characterization of a standard natural clay exchanged with three organic cations.
P. Gallo Stampino, L. Zampori, G. Dotelli, D. Botta, M. Voltolini
Fourth Mediterranean Clay Meeting, 2006
- The effect of an H₂S-rich fluid on rock materials: a first study at low P/T conditions.
M. Voltolini, G. Dotelli, G. Artioli, E. Previde Massara
Geoitalia 2005, 5° Forum Italiano di Scienze della Terra. Spoleto, 21-23 settembre 2005. Abst. 20-73, Epitome 1, 128, 2005.
- Microtopographic features and dissolution behaviour of natural zeolite surfaces studied by atomic force microscopy (AFM).
M. Voltolini, G. Artioli, M. Moret
2nd FEZA Conference, Taormina, 1-5 September 2002. Abst. OP79.
- Molecular resolution images of the surfaces of natural zeolites by atomic force microscopy.
G. Artioli, M. Voltolini, M. Moret
Zeolite '02, International Conference on the Occurrence, Properties and Utilization of Natural Zeolites, Thessaloniki, 3-7 June 2002.
Abst. Vol. 29-30.
- AFM investigation of zeolite surfaces.
M. Moret, M. Voltolini, G. Artioli
XXXI Congresso Nazionale AIC, Parma, 18-21 Settembre 2001; Abst. Vol., 103.

CONSEGUIMENTO DI PREMI E RICONOSCIMENTI NAZIONALI E INTERNAZIONALI PER ATTIVITÀ DI RICERCA
(*inserire premio, data, ente organizzatore, ecc.*)

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POSSESSO DEL DIPLOMA DI SPECIALIZZAZIONE EUROPEA RICONOSCIUTO DA BOARD INTERNAZIONALI
(relativamente a quei settori concorsuali nei quali è prevista)
(indicare diploma, data di conseguimento, ecc.)

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TITOLI DI CUI ALL'ARTICOLO 24 COMMA 3 LETTERA A) E B) DELLA LEGGE 30 DICEMBRE 2010, N. 240
(indicare se contratto di tipologia A o B, Ateneo, data di decorrenza e fine contratto, ecc.)

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PRODUZIONE SCIENTIFICA

PUBBLICAZIONI SCIENTIFICHE

(per ciascuna pubblicazione indicare: nomi degli autori, titolo completo, casa editrice, data e luogo di pubblicazione, codice ISBN, ISSN, DOI o altro equivalente)

Dobson, P.F., Kneafsey, T.J., Nakagawa, S., Sonnenthal, E.L., Voltolini, M., Smith, J.T. and Borglin, S.E., 2021. Fracture Sustainability in Enhanced Geothermal Systems: Experimental and Modeling Constraints. *Journal of Energy Resources Technology*, 143(10), p.100901. <https://doi.org/10.1115/1.4049181>

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Data

02/06/2021

Luogo

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