

CURRICULUM VITAE

Jessica Maria Chicco, was born in Fossano (CN) in April 16, 1984. She obtained the Bachelor's degree in Earth Science at the Department of Earth Science of the University of Turin (Italy) in 2007; in 2011, she got the Master's degree in Geological Sciences with a main focus on "Geological materials and georesources", at the Department of Earth Sciences of the University of Pisa (Italy). In 2016, she obtained the title of Doctor of philosophy (PhD) with a thesis entitled "The role of hydrogeological conditions and thermo-physical properties on the evaluation of the geothermal exchange potential: an application in Marche region (Italy)". In the two years following she got two teaching assignments at two high schools; in the meantime, she won two research grants at the Department of Earth Science of the University of Turin (Italy), focusing her activity on the low enthalpy geothermal energy research field. Actually, she is a Researcher Assistant Professor at the Interuniversity Department of Regional and Urban Studies and Planning (DIST), University of Turin. Her research activity is mainly focused on the geothermal energy for thermal energy production, as well as on the underground energy storage systems (UTES) in district heating and cooling networks (DHC).

From 2019, she is part of the Geothermal DHC Cost Action (CA18219) team covering the role of deputy coordinator of the working group 1 about "Technology". From October, 2022 she is involved in the European project "SAPHEA" funded by Horizon Europe, EU research & innovation framework program for 2021-2027. The project addresses the integration of geothermal energy into multivalent decarbonized district heating and cooling (DHC) networks operating at temperature levels between less than 30°C (5th generation DHC) and approximately 100°C (3rd generation DHC).

Among other activities, Jessica Maria Chicco got the license to practice as geologist, and she is enrolled in the Register of Geologists of the Piedmont Region, section A, with the number 817. In June, 2021 she was nominated Counsellor of the same Register.

PERSONAL INFORMATION

- **Jessica Maria Chicco**, born in Fossano (CN), the 16/04/1984, based in Fossano (CN), Via Craveri n. 55.
- **Contact:** +39 3926024060
chiccojessicamaria@gmail.com; jessica.chicco@polito.it
- **Identity card n.:** CA386404EZ
- **ID Research and Education:** Orcid (orcid.org/0000-0001-6877-5425)

EDUCATION

➤ SCIENTIFIC EDUCATION AND DEGREES EARNED

- 17/07/2007: **Bachelor's Degree in Earth Sciences** (classe 16; D.M. 509/99), at the Department of Earth Sciences of the University of Turin (Italy).
- 11/02/2011: **Master's Degree in Geological Sciences** (Classe 86/S; D.M. 509/99), at the Department of Earth Science of the University of Pisa (Italy).
- 22/07/2016: **PhD in Earth Science** (ciclo XXVIII), at the School of Science and Technology, Geology Division, University of Camerino (Italy).
- **PhD thesis with the title:** "The role of hydrogeological conditions and thermo-physical properties on the evaluation of the geothermal exchange potential: an application in Marche region (Italy)".

PhD project with the title: "Thermo-physical properties of groundwater in sedimentary deposits of Umbria-Marche Succession and their role in low enthalpy geothermal studies" (Eureka project, FSE Marche)"

- 2014/15: **Subject Expert**, for the degree courses in: i) "Geology" e ii) "Structural Geology" (L-34); iii) "Geothermics" (LM 74), at the School of Science and Technology, Geology Division, University of Camerino (Italy).
- 2017/18 and 2018/19: **Subject Expert**, for the degree courses i) "Applied Geology" (L-34) and "Geothermics" (LM 74) at the Department of Earth Sciences of the University of Turin (Italy).

➤ INTERNATIONAL POSTGRADUATE TRAINING ACTIVITIES

- From 18/05/2011 to 20/05/2011: “XI Corso di Idrologia Isotopica - Corso breve sull'applicazione delle tecniche isotopiche allo studio, valutazione e protezione delle risorse idriche”, at CNR in Pisa (Italy)
- From 11/07/2011 to 15/07/2011: “Melts, glasses, magmas” course, at the Ludwig Maximilians Universität, in Munich (Germany)

➤ TRAINING AND RESEARCH ACTIVITIES DURING THE PHD, AT INTERNATIONAL AND NATIONAL INSTITUTES

- September 2013: “Correct interpretation and reading of well profiles and geophysical logs”, at the "Business Unit Onshore, Operation Environment", SAIPEM S.p.A, Fano (Italy)
- April/May 2014: short course on “Relationships between geological structures and geothermal resources”, by Prof. Domenico Liotta from the Department of Earth Science of the University of Bari, at the School of Science and Technology, Geology Division, University of Camerino (Italy).
- April/May 2014: short course on “Geophysical methods for exploration”, by Dr. Carlo Ungarelli from Schlumberger, at the School of Science and Technology, Geology Division, University of Camerino (Italy).
- From September 2015 to October 2015: PhD visiting at the Department of Geothermics dell’Institute of Geophysics, The Czech Academy of Science, in Praga (Czech Republic). Supervisor: Rndr. DrSc. Vladimír Cermak

➤ POST DOC TRAINING INTERNATIONAL AND NATIONAL COURSES

- From 25/11/2017 to 08/12/2017: visiting researcher for the project “Évaluation du potentiel géothermique face la production agricole au nord du Québec et en Italie”, at the ETE/INRS in Québec (Canada), cooperation between Italy and Québec. Supervisor: Prof. Jasmin Raymond.
- 30/11/2017: Training seminar “Simulation énergétique des bâtiments”, by Dr. Jean-Michel Dussault, at the ETE/INRS in Québec (Canada)
- 17/08/2022 to 30/08/2022: visiting researcher for the project: “The current status of UTES in Norway and Italy in terms of geology, technology and energy policies” at NTNU in Trondheim (Norway), with the Prof. Rao Martand Singh.

SCIENTIFIC ACTIVITY

➤ CURRENT POSITION

- **From 01/10/2022:** Researcher **Non tenured Assistant Professor (IT: Ricercatore rtdA)**, at the Interuniversity Department of Regional and Urban Studies and Planning (DIST), University of Turin (Italy).

➤ PREVIOUS POSITIONS

- From 01/06/2021 to 30/09/2022: **Post Doc Research Fellow (IT: Assegnista di Ricerca)**, at the Interuniversity Department of Regional and Urban Studies and Planning (DIST), Politecnico di Torino.
It is funded by the program research activity with the title: “SGZE-San Giorgio-Zero Emissioni. Modellazione numerica della perturbazione termica del sottosuolo indotta dai campi sonde geotermici in Loc. San Giorgio –Bosco Chiesanuova (VR)”.
- From 01/04/2020 to 31/03/2021: **Post Doc Research Fellow (IT: Assegnista di Ricerca)**, at the Department of Earth Sciences of the University of Turin (Italy).
It was funded by the program research activity with the title: “Ottimizzazione della parte di sottosuolo di sistemi di geoscambio per riscaldamento/raffrescamento di singoli edifici e distretti di teleriscaldamento/raffrescamento”.
- From 01/03/2019 to 29/02/2020: **Post Doc Research Fellow (IT: Assegnista di Ricerca)**, at the Department of Earth Sciences of the University of Turin (Italy).
It was funded by the program research activity with the title: “Sistemi di stoccaggio di energia termica nel

sottosuolo”.

- From 01/02/2018 to 28/02/2019: **Post Doc Research Fellow (IT: Borsista di Ricerca)**, at the Department of Earth Sciences of the University of Turin (Italy).
It was funded by the program research activity with the title: “IRES-Piano Regionale Attività estrattiva del Piemonte”
- From 01/02/2017 to 31/01/2018: **Post Doc Research Fellow (IT: Borsista di Ricerca)**, at the Department of Earth Sciences of the University of Turin (Italy).
It was funded by the program research activity with the title: “Flussi di calore su esempi analogici e a scala reale”
- From 01/06/2016 al 30/09/2016: **Post Doc Research Fellow (IT: Borsista di Ricerca)**, at the Department of Earth Sciences of the University of Turin (Italy).
It was funded by the program research activity with the title: “Implementazione ed elaborazione dati geotermici multidisciplinari, con particolare riferimento alle proprietà termofisiche del sottosuolo ed alle strutture evidenziate dalla sismica a riflessione; compilazione di un database relativo all’area marchigiana”
- From 31/01/2013 to 31/01/2016: **PhD student**, at the School of Science and Technology, Geology Division, University of Camerino (Italy).
PhD course: “Science and Technology”, curriculum “Earth Science”
It was funded by the program research activity with the title: “Thermo-physical properties of groundwater in sedimentary deposits of Umbria-Marche Succession and their role in low enthalpy geothermal studies” (Progetto Eureka, supportato da FSE Marche)”.

➤ NATIONAL AWARDS

May 9, 2019: Scientific National Awards “Industria 4.0” of the 8th edition of “Giovedì Scienza”.
Scientific awards for the project “Stoccaggio del calore nel sottosuolo: nuova forma di risparmio energetico” (underground storage: new kind of energetic saving)

➤ POSITIONS OF RESPONSABILITY ROLES AND LECTURER TO NATIONAL AND INTERNATIONAL CONGRESSES

- September 7-9, 2016: Lecturer for the oral presentation: *“Quaternary tectonics from seismic interpretation and its relationship with deepest geothermal fluids in the Marche region (Central Italy)”*, during the “88° Congresso Nazionale della Società Geologica Italiana: Geosciences on a changing learning from the past, exploring the future”, at the Università Federico II in Naples (Italy).
- March 1-3, 2017: Lecturer for the oral presentation: *“Thermo-hydraulic characterization of a fractured shallow reservoir in Bergen (Norway) to improve the efficiency of a BHE field”*, during the “8th European Geothermal PhD Days (EGPD)”, at the GZB in Bochum (Germany).
- April 23-28, 2017: Poster Judge (Outstanding Student Poster & Pico, OSPP) and **chairperson** of the session GD8:2/CR6.5/SM10.3 *“The Earth’s thermal state and heat budget of crustal metamorphism (co-organized)”*, during the EGU (European Geosciences Union) General Assembly 2017, in Wien (Austria).
- March 14-16, 2018: Lecturer for the oral presentation: *“Fault zone: geomechanical and thermo-physical characterization vs IR thermal transient analysis”*, during the “9th European Geothermal PhD Days (EGPD)”, which was held at the ETH in Zurich (Switzerland).
- October 1, 2020: Lecturer for the oral presentation: *“The Salinelle of Mt.Etna” Geosite: thermo-physical and geochemical monitoring of hydrothermal fluids, aimed at understanding both their geothermal potential and their possible correlations with Mt. Etna activity*. Online event during the digital workshop: “Geothermal energy use for heating and electricity in volcanic islands”, organized by the Cost Action Geothermal DHC and EGEN Geothermal
- July 5-8, 2021: Chair for the workshop *“Legal and financial framework for geothermal DHCs”*, during the “Geothermal DHC meetings and workshops” of the Cost Action CA18219, at the GeoZS (Geological Survey) in Ljubljana (Slovenia).
- October 18, 2021: Keynote speaker *“Capitalizing decarbonized, multivalent district heating and cooling networks by underground thermal energy storage”*, during the “European Sustainable Energy Week (EUSEW), Geothermal energy use in multivalent district heating and cooling networks”. Online event.

- May 27, 2022: **Lecturer** for the oral presentation: “*Improving the Efficiency of District Heating and Cooling Using Geothermal Technology: Underground Thermal Energy Storage (UTES)*”. Physical event during the international symposium “New metropolitan perspectives” in the section “Energy transition: citizen’s active role, processes and impacts”
- September 20, 2022: **Lecturer** for the oral presentation: “Shallow geothermal heating for plant phenotyping greenhouses: a case study in NW Italy”. Physical event during the joint congress of the Italian Geological Society (SGI) and the Italian Society of Mineralogy and Petrology (SIMP) Congress entitled “Geosciences for a sustainable future”.

➤ INVOLVMENT IN RESEARCH AGREEMENTS

- Between 2015 and 2016: “Aspetti neotettonici e sismotettonici relativi alle strutture presenti nell’Appennino umbro-marchigiano, per scopi geotermici”.
Non-disclosure agreement between the School of Science and Technology, Geology Division, University of Camerino (Italy) and Eni S.p.A.
- Between 2018 and 2019: “Aspetti neotettonici e sismotettonici relativi alle strutture presenti nel margine esterno dell’Appennino centrale marchigiano”.
Non-disclosure agreement between the School of Science and Technology, Geology Division, University of Camerino (Italy) and Eni S.p.A.
- Between 2018 and 2019: “Seismotectonic and geothermal characterization of deep subsoil in Southern Piedmont”. Non-disclosure agreement between the Department of Earth Sciences of the University of Turin (Italy) and Eni S.p.A.
- Between 2019 and 2020: “Realizzazione di un innovativo impianto geotermico a bassa entalpia, finalizzato alla riduzione dei consumi energetici per la gestione di un magazzino frigorifero mediante l’utilizzo di fonti rinnovabili (Vigasio, Verona)”. Agreement between the University of Turin and Novatek s.r.l.
- Between 2020 and 2021: “Sviluppo e test del brevetto relativo al metodo per aumentare la capacità portante dei terreni e per sollevare edifici mediante precarica meccanica di inerte, ottenuta per compressione di martinetto idraulico in assenza di vibrazioni”. Agreement between the University of Turin and Novatek s.r.l.
- Between 2020 and 2021: “La modellazione numerica della perturbazione termica del sottosuolo indotta dai campi sonde geotermici in Loc. San Giorgio – Bosco Chiesanuova (VR). Condominio ‘Malera’”. Agreement between the University of Turin and Novatek s.r.l.
- From 2021 – present: “Studio tecnico-normativo sullo stoccaggio di energia termica nel sottosuolo”. Agreement between the Interuniversity Department of Regional and Urban Studies and Planning (DIST), University of Turin.
Agreement between Dipartimento Interateneo di Scienze, Progetto e Politiche del Territorio (DIST) and the Italian District Heating Association (AIRU)

➤ INVOLVEMENT IN RESEARCH ACTIVITIES FINANCED BY NATIONAL AND INTERNATIONAL CALLS

- Between 2014 and 2016: “MAterials and Technologies for improving the use of Renewable ENergy in the Districts of smart city (MATREND)”.
Aim of the project: to implement the whole quality of future geothermal plants, thanks to the study of the underground geoexchange potential, and to new solutions for geothermal pipes and grouts.
Funding: Fondo Ateneo per la Ricerca project (FAR 2014-15) of the University of Camerino
Partner companies: Pensy s.r.l. - Geotermia Marche s.n.c. - Otto s.r.l. - Fullservice Soc.Coop.
- Between 2018 and 2019: “Évaluation du potentiel géothermique face la production agricole au nord du Québec et en Italie” (QU17MO07).
Aim of the project: evaluation of the geothermal exchange potential in the North of the Québec, aimed at strengthening the food production of the Inuit Community.
Funding: Ministère des relations Internationales (Québec) and Ministero degli Affari Esteri e della Cooperazione internazionale (Italy)
- From 2017 to 2020: “Cooperation in Geothermal energy research in Europe-Mexico for development of Enhanced Geothermal Systems and Superhot Geothermal Systems (GEMex)”.
Aim of the project: i) evaluation of geothermal resources, for the EGS systems development; ii) characterization of the geothermal reservoirs.
Program H2020-EU.3.3.2. Low-cost, low carbon energy supply

Funding: RIA, Research and Innovation action

- From 2019 - present: “Research network for including Geothermal technologies into Decarbonized Heating and Cooling grids” (CA18219 Geothermal DHC)

Aim of the project: to create a network of collaboration between several European Universities and Research Institutes, developing skills and research platforms for the use of the geothermal energy in district heating and cooling networks.

Intergovernmental Program COST (European Cooperation in Science and Technology) Association.

Funding: progetto supportato dal “EU Framework Program Horizon 2020”

- From 2021- present: “MINA: Mappatura spaziale integrata dell’Inquinamento Naturale e Antropico”

Aim of the project: i) observation of chemical-physical parameters to evaluate air quality in urban and volcanic areas; ii) evaluations through the use of numerical simulations software; iv) verification of the potential of engineering integration in providing measurements scientifically validated

Funding: “Investimenti a favore della crescita e dell’occupazione” F.E.S.R. 2014/2020 Program.

- From October 2022 – present: “SAPHEA. Developing a single access point for the market uptake of geothermal energy use in multivalent heating and cooling networks across Europe”

Aim of the project: Integrating geothermal energy (source and storage) at its full technological range into heating (and cooling) networks at temperature ranges between <30°C and up to ~100°C (‘geoHC networks’)

Funding: HORIZON-CL5-2021-D3-02-03

➤ COORDINATION OF NATIONAL AND INTERNATIONAL RESEARCH GROUPS

As part of the COST (CA18219) European project “Research network for including Geothermal technologies into Decarbonized Heating and Cooling grids”:

- From June, 2019 to December, 2021: MC (Management Committee) substitute
- From February, 2020-present: **leader** of the Ad Hoc Working Group 2 “Underground Thermal Energy Storage”
- From December, 2020-present **deputy coordinator** of the permanent working group “Technology” (PWG1)
- From February, 2022-present: **organization team** “Geothermal DHC Summer School”, at the Technical University of Delft (The Netherlands), which was held between 11/07/2022 to 15/07/2022.

➤ REVIEWER OF ACADEMIC JOURNALS

Reviewer for the academic journals, edited by MDPI:

- Sustainability
- International Journal of Environmental Research and Public Health
- Energies
- Applied Sciences
- Resources
- Water

DIDACTIC ACTIVITIES

➤ TEACHING ACTIVITIES

- 2014/15: **collaborator for the academic course “Geothermics” (Master’s degree LM 74)**, at the School of Science and Technology, Geology Division, University of Camerino (Italy)
- 2018/19: **collaborator for the academic course “Geotermia” (Master’s degree LM 74)**, at the Department of Earth Sciences of the University of Turin (Italy).
- From 24/09/2020 to 30/09/2021: **Contract Professor** for the course “Impiego sostenibile delle Fonti Energetiche Rinnovabili”, of the Master’s degree in “Monitoraggio ambientale, tutela e ripristino” (LM 75), University of Turin (Italy)
- 11/07/2022: **Lecturer** and **Trainer** of the summer school “Renewable energy for the mountain territories” at the Campus Luigi Einaudi, University of Turin (Italy)

- From 11/07/2022 to 15/07/2022: **Lecturer** and **Trainer** of the summer school “Design your own renewable district heating and cooling system”, at the Technical University in d Delft (TU Delft, Netherlands)

➤ **BACHELOR’S AND MASTER’S DEGREE ASSISTANCE**

- **2014/15**: Master’s degree thesis in “Geoenviromental resources and risks” (LM 74), with the title: “Thermal conductivity in low enthalpy conditions: ground behaviour and implementation of new grouting materials”
Candidate: Chiara Pacetti; Supervisor: Prof. Chiara Invernizzi.
- **2015/16**: Bachelor’s degree thesis in “Scienze Geologiche” (L-34), with the title “Calibrazione dei sensori per la costruzione della thermal box 2.0”. Candidate: Marco Rollino; Supervisor: Prof. Giuseppe Mandrone
- **2016/17**: Bachelor’s degree thesis in Scienze Geologiche (L-34), with the title “Caratteristiche tecniche comparate dei principali cementi geotermici utilizzati in Italia”. Candidate: Giuseppe Bongiorno; Supervisor: Prof. Giuseppe Mandrone;
- **2016/17**: Master’s degree thesis in “Scienze Geologiche applicate” (LM 74), with the title “Studio geologico-tecnico ai fini di un impianto a bassa entalpia, nell’isola di Litle Sotra, Norvegia”. Candidate: Rossana Scuderi; Supervisor: Prof. Giuseppe Mandrone.
- **2017/18**: Master’s degree thesis in “Scienze Geologiche applicate” (LM 74), with the title “Variazione dei parametri fisico-tecnici al trattamento termico di rocce carbonatiche. Candidate: Tivano Cristina; Supervisor: Prof. Giuseppe Mandrone.
- **2018/19**: Bachelor’s degree thesis in Scienze Geologiche (L-34), with the title “Studio della frana di Cascina Gilli (Castelnuovo Don Bosco, Asti): correlazione tra monitoraggio e dati climatici”. Candidate: Fabio Paletto; Supervisor: Prof. Giuseppe Mandrone
- **2018/19**: Master’s degree thesis in “Scienze Geologiche applicate” (LM 74), with the title “Studio dei rapporti tra le Salinelle di Paternò e l’attività dell’Etna: evidenze in terreno e laboratorio”. Candidate: Loris Olocco. Supervisor: prof. Giuseppe Mandrone
- **2018/19**: Master’s degree thesis in “Scienze Geologiche applicate” (LM 74), with the title “Variazione dei parametri fisico-meccanici di rocce carbonatiche al variare di temperatura e pressione”. Candidate: Michela Conserva. Supervisor: prof. Giuseppe Mandrone
- **2019/20**: Master’s degree thesis in “Scienze Geologiche applicate” (LM 74), with the title “Analisi comparate delle principali risorse rinnovabili e possibili applicazioni nelle zone di Borgone di Susa e Villar Focchiardo”. Candidate: Marika Fedele; Supervisor: Prof. Giuseppe Mandrone.
- **2019/20**: Master’s degree thesis in “Scienze Geologiche applicate” (LM 74), with the title “Studio geologico-ambientale per la massimizzazione del periodo d’uso della pista di sci di fondo del Parco Naturale Regionale della Lessinia”. Candidate: Silvia Rivero; Supervisor: Prof. Giuseppe Mandrone.
- **2020/21**: Master’s degree thesis in “Monitoraggio ambientale, tutela e ripristino” (LM 75), with the title “Le miniere abbandonate di Saint-Barthélemy: una possibile valorizzazione come stoccaggio di energia”. Candidate: Mathieu Vuillermoz; Supervisor: Prof. Giuseppe Mandrone

INSTITUTIONAL RESPONSABILITIES

- Between 2019 and 2021: **Department Council and Teaching Commission**, at the Department of Earth Sciences, University of Turin (Italy).
- From June 2021: **in charge** of the “Flux Lab” of the Interuniversity Department of Regional and Urban Studies and Planning (DIST), University of Turin, for the thermo-physical materials determinations.
- From October, 2022: **Department Council and Teaching Commission**, at the Interuniversity Department of Regional and Urban Studies and Planning (DIST), University of Turin

OTHER TITLES AND ACTIVITIES

- From August 25, 2011 to March 31, 2013: expert consultant in the quarries field, for a local authority

(Provincia di Cuneo).

- January 2012: geological expedition “Dancalia 2012”. Sampling of waters from the volcanic crater “Dallol” (Afar Region, Ethiopia). Thanks to this, Prof. Orlando Vaselli and his team (Dipartimento of Earth Sciences of the University of Florence, Italy), were able to make geochemical analyses and to publish the obtained results in the journal “Chemical Geology” (Darrah, T., H., Tedesco, D., Tassi, F., Vaselli, O., Cuoco, E., Poreda, R., J. 2013. *Gas chemistry of the Dallol region of the Danakil Depression in the Afar region of the northern-most East African Rift*. Chemical Geology, 339, 16-29)

LANGUAGE SKILLS

- **Mother tongue**: Italian
- **Others**: English (C1); Français (C1); Español (B1)

COMPUTER SKILLS

- FeFlow
- Landmark’s SeisWorks SD
- Matlab
- QGIS
- ArcGIS
- AutoCAD
- Microsoft Office (Word, Excel, Power Point)
- Photoshop
- Adobe Illustrator
- ImageJ MicroVision 1.2.7;
- Canvas X.

PUBLICATIONS

- Chicco, J. M., Mandrone, G. (2022). *Modelling the Energy Production of a Borehole Thermal Energy Storage (BTES) System*. Energies, 15(24), 9587. <https://doi.org/10.3390/en15249587>.
- **Chicco, J. M.**, Antonijevic, D., Bloemendal, M., Cecinato, F., Goetzl, G., Hajto, M., Hartog, N., Mandrone, Vacha, D., Vardon, P. J. (2022). *Improving the Efficiency of District Heating and Cooling Using a Geothermal Technology: Underground Thermal Energy Storage (UTES)*. In: Calabrò, F., Della Spina, L., Piñeira Mantiñán, M.J. (eds) New Metropolitan Perspectives. NMP 2022. Lecture Notes in Networks and Systems, 482. Springer, Cham. https://doi.org/10.1007/978-3-031-06825-6_164
- Chicco, J. M., Mandrone, G., Vacha, D., Tartaglino, A., Fonte, L. (2022). Shallow geothermal heating for plant phenotyping greenhouses: a case study in NW Italy, Congresso SGI-SIMP 2022, Società Geologica Italiana Roma 2022, 976. <https://doi.org/10.3301/ABSGI.2022.02>.
- Chicco, J. M., Mandrone, G., Vacha, D. (2022). Underground Thermal Energy Storage (UTES): an improvement for District Heating and Cooling networks using a geothermal technology, Congresso SGI-SIMP 2022, Società Geologica Italiana Roma 2022, 975. <https://doi.org/10.3301/ABSGI.2022.02>.
- **Chicco J. M.**, Mandrone G. (2022). *How a sensitive analysis on the coupling geology and borehole heat exchangers characteristics can improve efficiency and production of shallow geothermal plant*. Heliyon, 8 (6), e9545. <https://doi.org/10.1016/j.heliyon.2022.e09545>.
- **Chicco, J.M.**; Comeau, F.-A.; Casasso, A.; Comina, C.; Giordano, N.; Mandrone, G.; Raymond, J. (2021). *Alternative Use of Artificial Quarry Lakes as a Source of Thermal Energy for Greenhouses*. Water, 13, 3560. <https://doi.org/10.3390/w13243560>
- Comina C., Mandrone G., Arato A., **Chicco J.**, Vacha D. (2021). *Preliminary analyses of an innovative soil improving system by sand/gravel injections - geotechnical and geophysical characterization of a first test site*. Engineering Geology, 293, 106278. <https://doi.org/10.1016/j.enggeo.2021.106278>
- Goetzl, G., Zosseder, K., Vranjes, A., Schifflechner, C., **Chicco, J. M.**, Singh, R. M. (2021). *Geothermal Heating and Cooling Networks for Green and Livable Urban Transformations -Part I*. In: Europe Now. Sustainable European Cities and Digitization. Publisher: Council for European Studies (CES).

- Zosseder, K., Vranjes., A., **Chicco, J. M.**, Singh, R. M., Goetzl, G. (2021). *Geothermal Heating and Cooling Networks for Green and Livable Urban Transformations -Part II*. In: Europe Now. Sustainable European Cities and Digitization. Publisher: Council for European Studies (CES).
- Costa M., **Chicco J. M.**, Invernizzi C., Teloni S., Pierantoni P.P (2021). *Plio-Quaternary structural evolution of the outer sector of the Marche Apennines, South of the Conero Promontory, Italy*. Geosciences, 11, 184, 1-20. <https://doi.org/10.3390/geosciences11050184>
- **Chicco J. M.**, Frasca M., Mandrone G., Vacha D., Kurilla L. J. (2021). *Global Warming as a Predisposing Factor for Landslides in Glacial and Periglacial Areas: An Example from Western Alps (Aosta Valley, Italy)*. In: Vilímek V., Wang F., Strom A., Sassa K., Bobrowsky P.T., Takara K. (eds) Understanding and Reducing Landslide Disaster Risk. WLF 2020. ICL Contribution to Landslide Disaster Risk Reduction. Springer, Cham. https://doi.org/10.1007/978-3-030-60319-9_26. In Attesa di indicizzazione su Scopus.
- **Chicco J. M.**, Giammanco S., Mandrone G. (2020). *Multidisciplinary study of the “Salinelle” of Paternò mud volcanoes: characteristics of the fluids and possible correlations with Mt. Etna activity*. Annals of Geophysics, 63, 6, 1-19. <https://doi.org/10.4401/ag-8523>.
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Fossano, lì 15/11/2022

Jessica Maria Chicco



