

**Prof. G. Diego GATTA, PhD**

Work address: Dipartimento di Scienze della Terra  
Università degli Studi di Milano  
Via Botticelli 23, I-20133 Milano, Italy

## PERSONAL INFORMATION

Phone: +39-02-503 15607  
Fax : +39-02-503 15597  
E-Mail: [diego.gatta@unimi.it](mailto:diego.gatta@unimi.it)

Date and Place of Birth: 1974, Italy  
Nationality: Italian

## WORK EXPERIENCE

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- Since 2016 **Full Professor of Mineralogy and Geo-resources**  
Earth Sciences Department - University of Milan, Italy  
[www.unimi.it](http://www.unimi.it), [www.dipterra.unimi.it/ecm/home](http://www.dipterra.unimi.it/ecm/home)
- From 2010 to 2016 **Associate Professor of Mineralogy and Geo-resources**  
Earth Sciences Department - University of Milan, Italy
- From 2005 to 2010 **Assistant Professor of Mineralogy and Geo-resources**  
Earth Sciences Department - University of Milan, Italy  
  
*Visiting scientist at the Crystallography Laboratory, Dept. of Geosciences, Virginia Tech, Blacksburg, USA - April-June 2006 and July-August 2009; <https://geos.vt.edu/>*
- From 2002 to 2005 **Postdoctoral fellowship**  
Bayerisches Geoinstitut - Universität Bayreuth, Germany; [www.bgi.uni-bayreuth.de](http://www.bgi.uni-bayreuth.de)
- Research activity:* Structure-property relationships of minerals (or their synthetic counterparts) and their solid solutions. In particular: order-disorder processes, equation of state and phase transitions. Phase characterization by single-crystal and powder X-ray diffraction, electron microscopy and various spectroscopies, as well as *in-situ* measurements of physical properties.

## EDUCATION AND TRAINING

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- From 1998 to 2001 **PhD in Mineralogy and Petrology**  
Ph.D. programme in Mineralogy and Petrology at the Laboratory of HP-Crystallography - Earth Sciences Department - University of Perugia. Research activity abroad during the PhD at ESRF - Grenoble (F) and ETH - Zuerich (CH).  
  
*Research activity:* High Pressure single-crystal X-ray diffraction and synchrotron powder diffraction of natural zeolites, to determine the deformation mechanisms and compressibility of microporous materials with Si/Al-framework structures.  
  
Doctoral dissertation held at the Earth Sciences Department - University of Florence on 8<sup>th</sup> March 2002, under the joint programme between the Universities of Florence and Perugia.  
  
Title of the dissertation thesis: *"High-pressure structural behaviour and compressibility of natural zeolites"*.

From 1993 to 1998 **“Laurea” degree studies in Geological Sciences (a 5-year degree programme)**  
 Earth Sciences Department - University of Perugia, Italy.

Courses in mathematics, physics, chemistry, physical-chemistry, crystallography, mineralogy, applied mineralogy, ore mineralogy, geochemistry, petrology, structural geology, geophysics, palaeontology.

Graduated summa cum laude in December 1998 with a dissertation thesis on *“Full phase analysis of Portland clinker by X-ray powder diffraction”*.

International experiences: Cardiff, UK (1996) - Erasmus Programme; Klimpfjäll, Sweden (1997) - Erasmus programme.

#### ADDITIONAL INFORMATION

##### Awards/Prizes/Fellowship

2002 - Italian Society of Mineralogy and Petrology (SIMP): Prize for the best PhD Thesis of the year;  
 2004- Italian Association of Crystallography (AIC): Prize for the best young researcher for the excellence and the novelty of the research activity;  
 2005 - Italian Society of Mineralogy and Petrology: Prize, for young scientists, for a short period (3 months) of research activity abroad;  
 2006 - Italian Society of Mineralogy and Petrology: “Panichi Prize”, for young researchers for the excellence and the novelty of the research activity;  
 2008 - Mineralogical Society of Great Britain and Ireland: “Max Hey Medal”;  
 2011 - Mineralogical Society of America Fellow;  
 2013 - European Mineralogical Union: EMU Medal for Research Excellence 2013;  
 2016 - Recipient of *“Premio Internazionale di Cultura “Re Manfredi” per la Ricerca Scientifica”* - Fondazione “Re Manfredi” ([www.premioremanfredi.it](http://www.premioremanfredi.it)).

In 2013, I was honoured by the new mineral name *“diegogattaite”*:  
 Rumsey M.S., Welch M.D., Kampf A.R., Spratt J. (2013) Diegogattaite,  $\text{Na}_2\text{CaCu}_2\text{Si}_8\text{O}_{20}\cdot\text{H}_2\text{O}$ : a new nanoporous copper sheet silicate from Wessels Mine, Kalahari Manganese Fields, Republic of South Africa. *Mineralogical Magazine*, 77, 3155-3162.

##### Association membership

from 1998: Italian Society of Mineralogy and Petrology (SIMP)  
 from 1999: Italian Zeolite Association (AIZ)  
 from 2001: Italian Association of Crystallography (AIC)  
 from 2001: International Zeolite Association (IZA)  
 from 2002: Mineralogical Society of America  
 from 2006: Mineralogical Society of Great Britain and Ireland

##### Editorial service

Associate Editor of the American Mineralogist (from September 2005)  
 Associate Editor of the Mineralogical Magazine (from October 2006)  
 Associate Editor of the Open Journal of Mineralogy (from May 2007)

Referee for: American Mineralogist, Applied Clay Science, Clays and Clay Minerals, Earth and Planetary Science Letters, European Journal of Mineralogy, Journal of the American Chemical Society, Journal of the American Ceramic Society, Journal of Material Chemistry, Journal of Physical Chemistry, Microporous and Mesoporous Materials, Mineralogy and Petrology, Mineralogical Magazine, Nature, Nature Geosciences, Nature Materials, Physics and Chemistry of Minerals, Physical Review Letters, Zeitschrift für Kristallographie.

##### Teaching Experiences and Certificates

- 2001: Teaching certificate for Natural Sciences and Mathematics in Italian secondary schools.

- Department of Earth Sciences - University of Milano. In charge of the courses in:  
 Applied Mineralogy (Master programme, since 2005)  
 Geomaterials (Master programme, since 2009)  
 Georesources (Bachelor programme, since 2010)  
 Mineral physics (Master programme, 2007 only)

(lectures, practicals, supervisions, fieldwork and seminars for about 600 h/y).

I am member of the teaching staff of the Doctoral School in Earth Sciences - Univ. Milano.

Coordination of bilateral agreements

I am (or I have been) the coordinator of bilateral agreements for national/international cooperation between the University of Milano - Dept. Earth Sciences and:

- ELETTRA, Italian Synchrotron Source - Sincrotrone Trieste S.C.p.A. (2012-2017);
- Institute of Mineralogy and Petrography, Universität Innsbruck, Austria (2011-2014; 2015-2018);
- Italian Custom Agency - Regional directorates for Lombardia, Laboratory of Physical Chemistry of Milano (2012-2014, 2015-2017);
- Institute for Technology of Nuclear and Other Mineral Raw Materials (ITNMS), Belgrade, Serbia (2012-2015);
- The BK21Plus Institute of Earth, Astronomy, and Atmosphere at Yonsei University, Seoul, Korea (2013-2016);
- SOGIN - Italian National Agency for the decommissioning of nuclear plants and the management of radioactive wastes (2016 - 2019).

Service for national and international institutions

I served as a reviewer for funding agencies:

- 2007, 2011, 2013, US National Science Foundation
- 2008, 2009, Swiss National Science Foundation (SNSF)
- 2015, 2016, 2017 Deutschen Forschungsgemeinschaft (DFG)
- 2017, Natural Environment Research Council (NERC) of the UK
- 2017, ANVUR - Italian Agency for Scientific Research Evaluation
- 2017, 2018 - Université Franco-Italienne: "Programme Vinci 2018", "Programme PHC Galilée 2019".

I have been member of the User Proposal Review Panel at the large-scale facility "Forschungs-Neutronenquelle Heinz Maier-Leibnitz" (nuclear reactor FRM II, Munich, 2012-2018), at "DESY - PETRA III" (synchrotron source, Hamburg, 2015-2018) and at "ANSTO - Australia's Nuclear Science and Technology Organisation" (neutron source, Sidney, 2010-).

I am currently serving the Italian Association of Crystallography as President (2018-2020) and the Informal Group of "Georeources and Mineralogical Applications" of the Mineralogical Society of Italy (SIMP) as President (2016-2018). I have served the Mineralogical Society of America on the Kraus Research Grant Committee between 2007-2013, and currently I am serving on the "Roebling Medal committee" (2018-2020) (<http://www.minsocam.org/MSA/Committees.html>).

Committee in national and international events

- Chair of the session "Computational Studies and Crystallography", 35th Annual Conference of the Italian Crystallographic Association, Ferrara (Italy), 18-21 Sept. 2006;
- Chair of the session "Geomaterials at large scale facilities", First Joint Conference of the Italian Society of Mineralogy and Petrology (SIMP) and Italian Crystallographic Association, Sestri Levante (Italy), 7-12 Sept. 2008;
- Member of the Scientific Committee of the "Zeolite 2010" - 8th International Conference of the Occurrence, Properties, and Utilization of Natural Zeolites", Sofia (Bulgaria), 10-18 July 2010;
- Member of the Scientific Committee of the "Zeolite 2014 - 9th International Conference on the Occurrence, Properties and Utilization of Natural Zeolites", Belgrade (Serbia), 8-13 June 2014;
- Chair of the session "Natural and synthetic host phases for radionuclides" - European Mineralogical Conference "EMC2012", Frankfurt (Germany), 2-6 Sept. 2012;
- Member of the Scientific Committee and Sponsor Manager of the joint conference of the Geological Society of Italy and Italian Society of Mineralogy and Petrology (SIMP), Milano (Italy), 9-12 Sept. 2014, <http://www.geoscienze2014.it/>
- Member of the Scientific Committee of the "MISCA IV: Fourth Meeting of the Italian (AIC) and Spanish Crystallographic (GE3C) Associations", Tenerife (Spain), 21-25 June 2016.
- Member of the Scientific Committee and Sponsor Manager of the European Mineralogical Conference - EMC2016, Rimini (Italy), 11-15 Sept. 2016, <http://emc2016.socminpet.it/>
- Member of the Scientific Committee of the joint conference of the Geological Society of Italy and Italian Society of Mineralogy and Petrology (SIMP) "Geosciences: a tool in a changing world", Pisa (Italy), 3-6 Sept. 2017, <http://www.geosciences.it/pisa2017/index.php>.
- Member of the Steering Committee of the 3rd Joint Conference of the Italian Crystallographic Association (AIC) and Italian Society of Synchrotron Light (SILS), Roma (Italy), 25-28 June 2018, <http://www.cristallografia.org/congresso2018/eng/detail.asp?idn=3089>
- Member of the Steering Committee of the "MISCA V: Fifth Meeting of the Italian (AIC) and Spanish Crystallographic (GE3C) Associations", Napoli (Italy), 3-7 Sept. 2019, <http://cristallografia.org/congresso2019/eng/detail.asp?idn=3238>.

## Professional qualifications

- From 2000: "Professional Geologist" (ref. num.: 233ES-OdGL), certification earned from the professional society "Ordine Nazionale dei Geologi d'Italia", valid life-time.
- From 2000: Expert witness appointed by the Court of Foggia (I), regarding environmental mineralogy, soil and water pollution.

## Current research interests and research plans for the immediate future

I have authored or co-authored more than 170 peer-reviewed journal articles (since 2001; a list is given below) on mineralogical applications of single-crystal and powder X-ray and neutron diffraction, electron microscopy and various spectroscopies (e.g. Raman, IR, LA-ICP-MAS). The diverse areas of research encompassed by this work include

- 1) mineral physics: structure-property relationships of minerals and their solid solutions, in particular order-disorder processes, equations of state and phase transitions;
- 2) mineralogical crystallography: structure and chemistry of natural and synthetic open-framework silicates and phosphates, phyllosilicates, chain-silicates, nesosilicates and oxides;
- 3) detecting protons and/or structurally incorporated water in nominally anhydrous minerals;
- 4) industrial minerals; nuclear wastes; environmental and medical mineralogy; forensic mineralogy; gemmology.

## List of projects supported by third-party funds:

At present, the research projects in which I am involved are supported by public institutions or industrial investors. It is worth mentioning that:

- I have been the Principal Investigator of the project "Futuro in Ricerca 2012 - FIRB Giovani" : "*ImPACT - Impose Pressure and Change Technology - Sistemi nanostrutturati in matrici zeolitiche*" (2013-2016), supported by the Italian Ministry of Education and devoted to young scientists (644 kEuro). ImPact was the only project from the research area of Earth Sciences supported on 2012;
- I am the coordinator of one of the research unit in the framework of the project "PRIN 2017: *Mineral Reactivity, a key to understand large scale processes: from rock forming environments to solid waste recovering/lithification*", supported by the Italian Ministry of Education on 2019 (funding of the unit: 98 kEuro).

I am member of the Advisory Board, at the Earth Sciences Dept. - Univ. Milan, of the 5-year project supported by the Italian Ministry of Education "Dipartimenti di Eccellenza 2018-2022" (funding: 6.6 MEuro).

## List of talks given (at national and international congresses, or short-courses):

- 1) Department of Chemistry - University of Perugia (I). Invited speaker for the international school: "Materials and technology for the conservation and restoration of cultural heritage", 28 Sept. - 4 Oct. 2000;
- 2) 11th Intern. Congr. E.U.G., Strasbourg (F), 8-12 April 2001. Oral presentation on "Magma Mixing Structures in 3D Through Serial Slices Reconstruction: Visualizing Chaotic Dynamics During Magmas Interaction";
- 3) 9th Nat. Congr. of the Italian Synchrotron Light Association, Florence (I), 5-7 July 2001. Oral presentation on "Volume measurements of dioctahedral mica at simultaneously high pressure and temperature";
- 4) "Zeolite'02" - 6th International Conference on the Occurrence, Properties and Utilization of Natural Zeolites, Thessaloniki (GR), 3-7 June 2002. Oral presentation on "New insights on HP-behaviour of microporous materials from X-ray single crystal data";
- 5) 23rd Nat. Congr. Italian Association of Crystallography, Trieste (I), 21-25 July 2003. Oral presentation (invited speaker) on "Topological effects on microporous materials under pressure conditions: framework and extra-framework behaviour of Ca- and Ba-fibrous zeolites";
- 6) Institut für Geowissenschaften - Christian-Albrechts-Universität zu Kiel (D), 16 April 2004. Invited speaker on "Zeolite under pressure: an unexplored world";
- 7) 32nd International Geological Congress, Florence (I), 20-28 August 2004. Oral presentation on "A systematic study of fibrous zeolites under pressure";
- 8) 34th Nat. Congr. Italian Association of Crystallography, Rome (I), 26-29 September 2004. Oral presentation (Key note, invited speaker) on "High-pressure crystallography of natural microporous materials: experimental set-up and comparative crystal physics".
- 9) 20th I.U.Cr. Congress, Florence (I), 23-31 August 2005. Oral presentation on "High-pressure behaviour of feldspathoids: the case of analcite";
- 10) "Zeolite'06" - 7th International Conference on the Occurrence, Properties and Utilization of Natural Zeolites, Socorro, New Mexico-USA, 16-21 July 2006. Oral presentation (Key note, invited speaker) on "Does porous mean soft? The state-of-the-art on the elastic behaviour of microporous silicates";
- 11) Dept. of Mineralogy and Petrology - University of Turin (I), 1 March 2007. Invited speaker on "Single-crystal X-ray diffraction experiments at high-pressure".
- 12) Earth Sciences Dept. - University of Florence (I), 27-28 March 2007. Invited speaker on "Neutron diffraction", intensive short-course for PhD students.
- 13) Int. Congr. "Frontiers in Mineral Sciences" - Cambridge (UK), 26-28 June 2007. Oral presentation on "Evolution of the modulated superstructure of nepheline at high-pressure: in-situ single-crystal X-ray diffraction study".
- 14) 6th Nat. Congr. Italian Association of Earth Sciences (F.I.S.T) - Rimini (Italy), 12-14 September 2007. Oral presentation on "Isothermal equation of state and structural evolution of the modulated super-structure of nepheline at high-pressure".
- 15) Institut für Geowissenschaften - Friedrich-Schiller-Universität Jena (D), 26-27 November 2007. Invited speaker on "Natural microporous materials: occurrence, behavior at non-ambient conditions and technological applications" and "The potentiality of single-crystal neutron diffraction: detecting water in nominally anhydrous materials".
- 16) Earth Sciences Dept. - University of Florence (I), 1-2 February 2008. Invited speaker on "Single-crystal and powder neutron diffraction at non-ambient conditions", intensive short-course for PhD students;
- 17) E.G.U. General Assembly, Wien (A), 13-18 April 2008. Oral presentation on "Leucite at high-pressure: elastic behavior and phase stability";
- 18) 1st Joint Congr. Italian Association of Mineralogy and Petrology and Italian Association of Crystallography - Sestri Levante (Italy), 7-12 September 2008. Oral presentation (invited speaker) on "New insights into the crystal-chemistry of epididymite and eudidymite: a single-crystal neutron diffraction study";
- 19) EU R.I.T.A. User workshop (Research Infrastructure Transnational Access at the Bayerisches Geoinstitut, Bayreuth), Verbania-Pallanza, Sept. 28 - Oct. 01, 2008. Oral presentation on "Effect of the channel-content on the elastic behaviour of open-framework materials";
- 20) Institut für Mineralogie und Petrographie - Universität Innsbruck (A), 22 January 2009. Invited speaker on "Open-framework silicates at high pressure: The case of natural zeolites".
- 21) Earth Sciences Dept. - University of Florence (I), 7-8 May 2008. Invited speaker on "Neutron diffraction in Earth Sciences", intensive short-course for PhD students.
- 22) I.U.Cr. - N.A.T.O. International School of Crystallography, Erice (I), 4-14 June 2009. Invited speaker on "Microporous materials at high-pressure: are they really soft?".
- 23) American Crystallographic Association - Annual Meeting, Toronto (CA), 25 - 30 July 2009. Invited speaker on "Phase Transitions in Microporous Materials".

- 24) Department of Geosciences, Virginia Tech, Blacksburg, VA-USA, 1 September 2009. Invited speaker for a seminar on “Natural Zeolites: Occurrence, Crystal-Chemistry, Behaviour at Non-Ambient Conditions and Technological Applications”.
- 25) 7th Nat. Congr. Italian Association of Earth Sciences (F.I.S.T) - Rimini (Italy), 9-11 September 2009. Oral presentation (invited speaker) on “Polytypism and elastic behavior: the case of phengites”.
- 26) 7th Nat. Congr. Italian Association of Earth Sciences (F.I.S.T) - Rimini (Italy), 9-11 September 2009. Oral presentation on “Structural evolution of coexisting 3T and 2M1 phengite micas up to 11 GPa: An in-situ single-crystal X-ray diffraction study”.
- 27) 7th Nat. Congr. Italian Association of Earth Sciences (F.I.S.T) - Rimini (Italy), 9-11 September 2009. Oral presentation (Key note, invited speaker) on “Stability at high-pressure of Al<sub>5</sub>BO<sub>9</sub>: A mullite type material with outstanding applications”.
- 28) “Zeolite 2010” - 8th International Conference of the Occurrence, Properties, and Utilization of Natural Zeolites, Sofia, Bulgaria, 10-18 July 2010. Oral presentation (Key note, invited speaker) on “Pressure-induced expansion in zeolites: fate or reality?”
- 29) Faculty of Chemical Engineering and Technology, University of Zagreb, Croatia, 20 September 2010. Invited speaker on “Crystal-chemistry of natural zeolites”.
- 30) 10th Congress of Italian Zeolite Association “Advances in Zeolite Science and Technology” - Naples, 14-17 September 2011. Invited speaker on “Cs-zeolites under extreme conditions: comparative thermoelastic behaviour of Cs-ABW, Cs-CAS and Cs-ANA”.
- 31) DESY - PETRA III - German National Sources of Synchrotron Light, 1 July 2013. Invited speaker on: “Porous materials at high pressure: elastic behaviour and structure evolution”.
- 32) 17th National Congress of Catalysis GIC 2013 and 11th National Congress of Zeolites Science and Technology - Riccione (Italy), 15-18 September 2013. Oral presentation (Key note, invited speaker) on: “Pressure-induced hyper-confinement in zeolites: today, tomorrow”.
- 33) EGU General Assembly 2014, Wien (A), 27 April - 2 May 2014 - “Microporous materials under extreme conditions - EMU Medal in Research 2013 presentation”.
- 34) Zeolite 2014 - 9th International Conference on the Occurrence, Properties and Utilization of Natural Zeolites - Belgrade, Serbia, 8-13 June 2014. Oral presentation on: “Compressional behaviour of paulingite -A sub-nanosponge?”.
- 35) 92nd Annual Meeting Deutsche Mineralogische Gesellschaft (DMG), Jena, Germany, 21 - 24 September 2014. Plenary lecture on: “Open-framework silicates at extreme conditions” (<http://www.dmg2014.de>).
- 36) Department of Material Sciences and Physics, Universitaet Salzburg (Austria). 27 May 2015. Invited speaker for a seminar on “Microporous materials under extreme conditions: the case of zeolites”.
- 37) Joint Congress of the SIMP-AIV-SoGel-SGI “Il Pianeta Dinamico: sviluppi e prospettive a 100 anni da Wegener”, Firenze (I), 2-4 September 2015. Oral presentation (Key note, invited speaker) on: “The Cs-cycle in nuclear processes: From Cs-nanosponges to ceramic Cs-bearing materials”.
- 38) Physics Department, Technische Universität München (TUM), Germany. 11 January 2016. Invited speaker for a seminar on “Neutrons in Mineralogy: the complex H-bonding networks in natural phosphates”.
- 39) National Conference on Diamond and Colored Gemstones “Dalla Mineralogia Applicata alla Gemmologia”, Catania (I), 18-19 January 2016. Invited speaker for a seminar on: “X-ray diffraction in gemology”.
- 40) 39th Annual Meeting of the British Zeolite Association, Bath (UK), 21-23 March 2016. Oral presentation (Plenary lecture) on: “Microporous materials under pressure: their structural response at the atomic scale”.
- 41) Joint Congress of the Italian and Spanish Crystallographic Associations (MISCA), Tenerife (Spain), 21-25 June 2016. Oral presentation on “High-pressure behavior and phase transition in colemanite, an industrially relevant inoborate”.
- 42) Italian Crystallographic Association: 50 years anniversary, Rome 19-20 January 2017. Invited speaker on: “Crystallography and Mineralogy”.
- 43) HERCULES2018 - International School - Neutrons and synchrotron radiation for science. Invited speaker for a seminar on “Earth and Planetary Science”, Grenoble (F) 30 March 2018.
- 44) Joint conference of the Geological Society of Italy - Italian Society of Mineralogy and Petrology, Catania (Italy), 11-14 September 2018. Oral presentation (invited keynote speaker) on: “Crystal-fluid interactions in open-framework silicates”. -
- 45) 21st Symposium of the Federation European Education in Gemmology (FEEG), Vicenza (Italy), 19 January 2019. Oral presentation (invited speaker) on: “Non-destructive techniques in gemmology: single-crystal X-ray diffraction”.
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## Publications in peer-reviewed journals

1. Comodi P., Gatta G.D., Zanazzi P.F. (2001): High-pressure structural behaviour of heulandite. *Eur. J. Mineral.*, 13, 497-505.
2. Comodi P., Gatta G.D., Zanazzi P.F. (2002): High-pressure structural behaviour of scolecite. *Eur. J. Mineral.* 14, 567-574.
3. Comodi P., Gatta G.D., Zanazzi P.F., Levy D., Crichton W. (2002): Thermal equations of state of dioctahedral micas on the join muscovite-paragonite. *Phys. Chem. Minerals*, 29, 538-544.
4. Perugini D., Poli G., Gatta G.D. (2002): Analysis and Simulation of Magma Mixing Processes in 3D. *Lithos*, 65, 313-330.
5. Comodi P., Gatta G.D., Zanazzi P.F. (2003): Effects of pressure on the structure of bikitaite. *Eur. J. Mineral.*, 15, 247-255.
6. Gatta G.D., Masci S., Vivani R. (2003): Dimensional reduction in zirconium phosphate; from layer to ribbons to chains. *J. Mater. Chem.*, 13, 1215-1222.
7. Gatta G.D., Comodi P., Zanazzi P.F. (2003): New insights on high-pressure behaviour of microporous materials from X-ray single crystal data. *Micropor. Mesopor. Mater.*, 61, 105-111.
8. Bizzarri R., Ambrosetti P., Argenti P., Gatta G.D., Baldanza A. (2004). -L'affioramento del Caio (Lago di Corbara, Orvieto, Italia Centrale) nell'ambito dell'evoluzione paleogeografica Plio-Pleistocenica della Valle del Tevere: evidenze sedimentologiche e stratigrafiche. *Il Quaternario*, 16(2), 241-255.
9. Gatta G.D., Boffa Ballaran T., Comodi P., Zanazzi P.F. (2004): Isothermal equation of state and compressional behavior of tetragonal edingtonite. *Am. Mineral.*, 89, 633-639.
10. Gatta G.D. & Boffa Ballaran T. (2004): New insight into the crystal structure of orthorhombic edingtonite: evidence for a split Ba site. *Mineral. Mag.*, 68, 167-175.
11. Gatta G.D., Boffa Ballaran T., Comodi P., Zanazzi P.F. (2004): Comparative compressibility and equation of state of orthorhombic and tetragonal edingtonite. *Phys. Chem. Minerals*, 31, 288-298.
12. Comodi P., Bernardi M., Bentivoglio A., Gatta G.D., Zanazzi P.F. (2004) The production and technology of glazed ceramics from the middle ages, found in the Saepinum territory (Italy): a multimethodic approach. *Archaeometry*, 46 (3), 405-419.
13. Gatta G.D. & Wells S.A. (2004): Rigid Unit Modes at high-pressure: an explorative study of a fibrous zeolite like framework with EDI topology. *Phys. Chem. Minerals*, 31, 465-474.
14. Vivani R., Costantino F., Nocchetti M., Gatta G.D. (2004): Structural homologies in benzylamino-N,N-bis methylphosphonic acid and its layered zirconium derivative. *J. Solid State Chem.*, 177, 4013-4022.
15. Iezzi G., Gatta G.D., Kockelmann W., Della Ventura G., Rinaldi R., Schäfer W., Piccinini M., Gaillard F. (2005): Low-T neutron powder-diffraction and synchrotron-radiation IR study of synthetic amphibole Na(NaMg)Mg<sub>5</sub>Si<sub>8</sub>O<sub>22</sub>(OH)<sub>2</sub>. *Am. Mineral.*, 90, 695-700.
16. Gatta G.D., Comodi P., Zanazzi P.F., Boffa Ballaran T. (2005): Anomalous elastic behavior and high-pressure structural evolution of zeolite levyne. *Am. Mineral.*, 90, 645-652.
17. Gatta G.D., Boffa Ballaran T., Iezzi G. (2005): High-pressure X-ray and Raman study of a Li-clinopyroxene. *Phys. Chem. Minerals*, 32, 132-139.
18. Gatta G.D. (2005) A comparative study of fibrous zeolites under pressure. *Eur. J. Mineral.*, 17, 411-421.
19. Comodi P., Zanazzi P.F., Cera F., Vivani R., Garofani P., Miscetti G., Gatta G.D. (2005) I materiali sostitutivi dell'Amianto: La de-vevtrificazione di fibre ceramiche refrattarie e lane minerali in condizioni di lavori ad alta temperatura (pagg 1-26). In "L'Industria e l'amianto - I nuovi materiali e le nuove tecnologie a dieci anni dalla Legge 257/1992", Consiglio Nazionale delle Ricerche (CNR), 541 pp.
20. Rinaldi R., Gatta G.D., Knight K.S., Geiger C., Artioli G. (2005) Crystal chemistry, cation ordering and thermoelastic behaviour of CoMgSiO<sub>4</sub> olivine at high temperature as studied by in-situ neutron powder diffraction. *Phys. Chem. Minerals*, 32, 655-664.
21. Gatta G.D., Nestola F., Bromiley G.D., Mattauch S. (2006) The real topological configuration of the extra-framework content in alkali-poor beryl: a multi-methodological study. *Am. Mineral.*, 91, 29-34.
22. Gatta G.D. & Lee Y. (2006) On the elastic behaviour of zeolite mordenite: a synchrotron powder diffraction study. *Phys. Chem. Minerals*, 32, 726 - 732.
23. Gatta G.D., Nestola F., Boffa Ballaran T. (2006) Elastic behavior, phase transition and pressure induced structural evolution of analcime. *Am. Mineral.*, 91, 568-578.
24. Nestola F., Gatta G.D., Boffa Ballaran T. (2006) The effect of Ca substitution on the elastic and structural behavior of orthoenstatite. *Am. Mineral.*, 91, 809-815.
25. Gatta G.D., Nestola F., Boffa Ballaran T. (2006) Elastic behaviour and structural evolution of topaz at high pressure. *Phys. Chem. Minerals*, 33, 235-242.

26. Gatta G.D. & Wells S.A. (2006) Structural evolution of zeolite lewyne under hydrostatic and non-hydrostatic pressure: geometric modelling. *Phys. Chem. Minerals*, 33, 243-255.
27. Gatta G.D., Nestola F., Walter J. (2006) On the thermo-elastic behaviour of kyanite: a neutron powder diffraction study up to 1200°C. *Mineral. Mag.*, 70, 309-317.
28. Gatta G.D., Nestola F., Bromiley G.D., Loose A. (2006) New insight into crystal chemistry of topaz: A multi-methodological study. *Am Mineral.*, 91, 1839-1846.
29. Dubrovinsky L., Dubrovinskaia N., Kantor I., Nestola F., Gatta D. (2006) High-brilliance X-ray system for high-pressure in-house research: applications for studies of superhard materials. *High Pressure Research*, 26, 137-143.
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Milano, 7 October 2019