### CURRICULUM di ANNA MARIA FERRERO

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| **personal information** | Born in Mondovì (Cuneo, Italy) on the 23rd May 1963. Resident in Torino, via Colli 14 (Cap. 10128), Italy., Italian citizen  Email: anna.ferrero@unito.it  Web: http://geologia.campusnet.unito.it/do/docenti.pl/Show?\_id=annamfer. |
| **work experience, education**  **and training** | Graduated in Civil engineering at the Polytechnic di Torino in 1988 (110 and laude over 110).  Researcher in geotechnics at the Polytechnic di Torino between 1992-2002.  In 1993 PhD at the Polytechnic di Torino in Georesources Engineering.  In 1995 s Diploma of Imperial College of London in Rock Mechanics where she spent a period as Assistant Researcher at the Rock Mechanics group. |
|  | Associate professor since 2002 at the University of Parma and associate professor at University of Turin since October 2012 and full professor since October 2016.  At the University of Turin, she is:   * delegate of the Erasmus programme for the Earth Science Department (since 2012), * director of the Doctorate school in Earth science (since 2015) * she is part of the Commission for the staff commission (since 2014). |
| **teaching activity** | Anna Maria Ferrero has been teaching soil and rock mechanics since 1992 at Turin Polytechnics where she has been teaching geotechnics and slope stability since 2002.  Between 2002 and 2012 she has been professor at Parma University teaching geotechnics and slope stability. Since 2012 she is has been uncharged of the courses of geotechnics and slope stability for both the first level degree course and for the master course degree.  She tough geotechnics and slope stability in several PhD courses programs in Italian and foreign universities (University of Turin 2012, 2013, Polytechnic of Milan 2009, University di Cartagena 2007, University of Vigo 2010, University of Zilina, 2011) and for specialization courses of the engineering and geology professional boards. |
| **research activity and contracts** | Her research activity covered different subject of Rock Mechanics and in particular the study of the behaviour of natural and reinforced rock discontinuities, the mechanical behaviour of composite rock materials and the objective analysis of geo structural survey.  The research has been carried on by experimental tests, numerical modelling and theoretical studies.  She co-operated and has been responsible in several EU projects for the development of rock mechanics numerical models using different numerical tools such as the Finite Element Method and the Finite Difference for continuous medium and the Distinct Element Method for discontinuous medium.  She has been responsible of a research projects with public administrations and private companies, among others:   * UE project research unit of the Polytechnic of Turin for the development of a new automatic planning methodology for underground ornamental stone quarry, titled “Development of an integrated computer aided design and planning methodology or underground marble quarries”; with the quarry sector of ASL of Massa and Carrara for the "Study on stability of underground excavations for the exploitation of ornamental stone", * Erasmus project MINERAL for the University of Turin; * study entitled Geological-technical study for the development of the old underground quarries stone of Viggiù with the province of Varese; * project entitled: *Analisi del comportamento e degli interventi di protezione idraulica delle arginature in materiali permeabili dell’alto corso del Po* with the Interregional Agency fot the Po (AIPO); * project entitled *Experimental study of protective barriers against rockfall and debris flows: product optimization and development of new guidelines for the design* financed by CRUI – ICE.   She has been responsible of local research unit of national project in 1998, 2201, 2006 and 2008.  Her research activity is witnessed by more than 100 scientific papers on journal and conferences proceedings. |
| **Member of editorial board and associations** | *Member of several international commission such as*:  Member of the Eurocode 7 committee TC250/SC7/EG13 Rock mechanics as secretary  Member of the commission Displacement Discontinuity Analysis DDA of the ISRM  Member of TC216 Frost Geotechnics Host Member Society  *She is member of cultural association such as:*  Member of the president board of AGI with proxy as ISRM (International society of rock mechanics) Italian representative since 2011  Vice president of the board of GEAM, Polytechnic di Torino (GEAM) since 2010.  Member appointed by the ISRM Joint Technical Committee 2 (JTC2) on "Representation of Geo-engineering Data in Electronic Form", which works under the umbrella of FedIGS  *Member of doctoral school such as:*  Member of the scientific board of the Doctorate school in Geotechnics at the Polytechnic of Turin (1999- 2002), at the University of Parma (2008- 2012), at the University of Turin since 2012, of the Inter Polytechnic doctorate school – Consortium among the Polytechnic of Turin, Milan and Bari since 2012.  *She is member of ISI journal editorial boards:*  Member of the editorial board of Géotechnique Letters, ICE publishing since 2014. of the ISI journal GEAM since 2013. |
| **Further information** | She has been tutors of PhD students (3 at the Polytechnic of Turin, 4 at the University of Parma and 2 at the University of Turin) and of several Master course students at the Polytechnic of Turin, at the University of Parma and Turin (more than 100).  She is auditor for the allocation of funding for research projects in the field of Geotechnical for the European Union and for "University Grants commits" of the Government of Hong Kong and of the University of Hong Kong.  She is reviewer for several international journals in Rock mechanics and related fields. She is consultant of some courts for proceedings related geotechnical aspects.  The writer has a good knowledge of written and spoken English. It also has a basic knowledge of Spanish.  She has been founding partner of the university spin-off GD Solutions at the University of Parma founded with the aim to design, develop and market hardware and computer software in the field of photogrammetry and geotechnics |
|  | Torino 22/05/2018  Anna Maria Ferrero |

**List of Selected Journal paper**

1. Ferrero A.M. (1995) – “The shear strength of reinforced rock joints” – Int. Jour. Rock Mech. & Geomech. Abst., Pergamon Press, vol. 32, n. 6, pp. 595-605. Printed in Great Britain, London
2. Ferrero A.M., Marini P. (2000) – “Studies on the mechanical behaviour of two marble at different micro-cracks densities” – Rock Mechanics and Rock Engineering vol 34 n 1 Springer Wien New York,57-66.
3. Harrison J.P., Ferrero, A.M., Cravero S. (2001) “Fuzzy Partitioning Algorithms Applied to the Interpretation of Distinct Element Modelling Results” Geotecnique Volume LI number 8, The institution of civil engineers, London, pp.667-686.
4. Ferrero A. M., Godio A., Sambuelli L. (2003) Geophysical investigations to optimise excavation of underground marble quarry in Stazzema, Italy. The leading edge – The society of international Geophysicists Journal. Volume 22 Issue 6. 574-578.
5. Ferrero A.M., Migliazza M.R., Giani G.P. (2004). Analysis of the stability condition of tunnels: comparison between continuous and discontinuous approaches. Int. J. Rock Mech. & Geomech. Abs. vol. Volume 41, Issue 3, April 2004, Page 483 - Volume 41, Supplement 1, May 2004, Pages 646-651. Printed in Great Britain, London. doi:10.1016/j.ijrmms.2003.12.01
6. A.M. Ferrero, A.Godio, L.Sambuelli, I. H. Voyat (2007) Geophysical and geo mechanical investigations applied to the rock mass characterisation for distinct element modelling. Rock Mechanics and Rock Engineering. Springer Wien New York, Volume 40 (6), pp. 603-622. DOI 10.1007/s00603-006-0092-9.
7. M. Ferrero, M. Migliazza, R. Roncella and G. Tebaldi (2007) Analysis of the failure mechanisms of a weak rock through photogrammetrical measurements by 2D and 3D visions. J. Eng Frac. Mech, .Volume 75, Issue 3-4, pp. 652-663. Elsevier. doi:10.1016/j.engfracmech.2007.03.041
8. Giacomini, O. Buzzi, A.M. Ferrero, M. Migliazza and G.P. Giani (2008). Experimental and numerical study of the hydromechanical behaviour of a single natural rock discontinuity. Intenational Journal of Rock Mechanics and Mining Science Volume 45, Issue 1, January 2008, Pages 47-58. Pergamon Press. doi:10.1016/j.ijrmms.2007.04.007.
9. A.M. Ferrero, G. Forlani, R. Roncella, H.I. Voyat (2008) Advanced geo structural survey methods applied to rock mass characterization. Rock mechanics and Rock Engineering. Springer Wien New York. Available on line DOI 10.1007/s00603-008-0010-4.
10. Segalini, G. P. Giani, A. M. Ferrero (2008) Geomechanical studies on slow slope movements in Parma Apennine. Engineering Geology, Elsevier B.V., doi: 10.1016/j.enggeo.2008.11.003 .
11. Ferrero A.M. Migliazza M. (2009) Theoretical and numerical study on Uniaxial compressive behaviour of marl. Mechanics of Materials Int. J. Mech. Mater. (2009), 561- 572. 41 doi:10.1016/j.mechmat.2009.01.011
12. Ferrero A.M., Migliazza M.,Spagnoli S. (2009) Theoretical modelling of bowing in cracked marble slabs under cyclic thermal loading. Construction and Building Materials. doi:10.1016/j.conbuildmat.2008.12.01
13. Segalini A., Ferrero A.M., Giani G.P. (2009) Stability analysis of historic underground quarries Computers and Geotechnics Volume 37, Issue 4, June 2010, Pages 476-486 ISSN:0266-352X doi:10.1016/j.compgeo. 2010.01.007
14. Ferrero, Migliazza, Tebaldi (2010) Development of new experimental device for the of study the mechanical behavior of rock discontinuity under monotonic and cyclic load Rock Mech Rock Eng 43:685–695 DOI 10.1007/s00603-010-0111-8
15. A.M. Ferrero, M. Migliazza, R. Roncella, E. Rabbi(2010) Rock slopes risk assessment based on advanced techniques. Landslide Volume 8, Issue 2, June 2011, Pages 221-231 ISSN: 1612-510 DOI 10.1007/s10346-010-0246-4
16. Alejano L., Ferrero A.M. P. Ramírez-Oyanguren, M.I. Álvarez Fernández (2011) Stability of wall slopes: limit equilibrium, numerical and physical models Int. J. Rock Mech. & Geomech. Abs. 48 16–26 doi:10.1016/j.ijrmms.2010.06.013
17. A.M. Ferrero, M. Migliazza, R. Roncella, A. Segalini, (2011) Rock cliffs hazard analysis based on remote geostructural surveys: The Campione del Garda case study (Lake Garda, Northern Italy), Geomorphology, Volume 125, Issue 4, 15 February 2011, Pages 457-471, ISSN 0169-555X, DOI: 10.1016/j.geomorph.2010.10.009.
18. Ferrero, A.M., Segalini, (2011) M. Assessment of the stability conditions of ancient underground quarries through on site monitoring and numerical modelling. International Journal of Geoenginnering Case Histories ISSN 1790-2045.
19. Migliazza M.R., Ferrero A.M., Spagnoli (2011) A Experimental analysis of crack propagation in Carrara marble subjected to cyclic loads. International journal of rock mechanics Volume 48, Issue 6, September 2011, Pages 1038-1044 (ISSN:1365-1609). **DOI:** 10.1016/j.ijrmms.2011.06.016
20. Spagnoli, A. M. Ferrero, M. Migliazza.(2011) A Micromechanical Model To Describe Thermal Fatigue And Bowing Of Marble. International Journal of Solids and Structures. Volume 48, Issue 18, 1 September 2011, Pages 2557-2564 doi:10.1016/j.ijsolstr.2011.05.006
21. Ferrero, A. M., Umili, G. (2011). Comparison of methods for estimating fracture size and intensity applied to aiguille marbrée (mont blanc). International Journal of Rock Mechanics and Mining Sciences, Volume 48, Issue 8, December 2011, Pages 1262-1270. **DOI:** 10.1016/j.ijrmms.2011.09.011
22. Umili, G., Ferrero, A., & Einstein, H. H. (2013). A new method for automatic discontinuity traces sampling on rock mass 3D model. Computers and Geosciences, Volume 51, February 2013, Pages 182-192 **DOI:** 10.1016/j.cageo.2012.07.026.
23. Ferrero. A.M, Migliazza M.R, Segalini A., Gullì (2013) In situ stress measurements interpretations in large underground marble quarry by 3D modeling International journal of rock mechanics Volume 60, June 2013, 103-113, doi: 10.1016/j.ijrmms.2012.12.008
24. R Brighenti, A. Segalini,, A M Ferrero (2013) Debris flow hazard mitigation: A simplified analytical model for the design of flexible barriers Computers and Geotechnics Volume 54, October 2013, Pages 1–15 doi:10.1016/j.compgeo.2013.05.010
25. A M Ferrero, M Migliazza, A Spagnoli, M Zucali (2014) Micromechanics of intergranular cracking due to anisotropic thermal expansion in calcite marbles Engineering Fracture Mechanics Volume 130, November 2014, Pages 42–52
26. Ferrero A.M., Segalini A., Umili G. (2015). Experimental tests for the application of an analytical model for flexible debris flow barriers design. Engineering Geology, vol. 185, p. 33-42, ISSN: 0013-7952, doi: 10.1016/j.enggeo.2014.12.002
27. Bonetto S., Facello A., Ferrero A.M., Umili G. (2015). A Tool for Semi-Automatic Linear Feature Detection Based on DTM. Computers & Geosciences, vol. 75, p. 1-12, ISSN: 0098-3004. doi: 10.1016/j.cageo.2014.10.005
28. A. M. Ferrero, M. Migliazza, M. Pirulli (2015) Advance survey and modelling technologies for the study of the slope stability in an Alpine basin Natural Hazards March 2015, Volume 76, Issue 1, pp 303-326 DOI 10.1007/s11069-014-1490-z ISSN 0921-030X
29. Vagnon F., Segalini A., Ferrero A.M., (2015) - “Theoretical and Experimental Studies of Flexible Barriers Under Debris Flow Impact” Procedia Earth and Planetary Science Volume 15, 2015, Pages 165–172
30. Ferrero AM, M Migliazza, Pirulli M., G. Umili (2016) Some Open Issues on Rockfall Hazard Analysis in Fractured Rock Mass: Problems and Prospects Rock Mechanics and Rock Engineering 49(9) · May 2016 DOI: 10.1007/s00603-016-1004-2
31. Alejano L. R., Castro-Filgueira Uxía, Ferrero A. M., Migliazza M. and Vagnon F. (2017) In situ stress measurement near fault and interpretation by means of discrete element modelling Acta Geodynamica et Geomaterialia Vol. 14, No. 2 (186), 181–194, 2017 **DOI:** 10.13168/AGG.2017.0002
32. Vagnon, F., Ferrero, A.M., Umili, G., Segalini, A.A Factor Strength Approach for the Design of Rock Fall and Debris Flow Barriers [Geotechnical and Geological Engineering](https://www.scopus.com/sourceid/19690?origin=recordpage)Volume 35, Issue 6, 1 December 2017, Pages 2663-2675DOI: 10.1007/s10706-017-0269-x
33. Rispoli, A. Ferrero, A.M. Cardu, M. Farinetti, A. (2017) Determining the Particle Size of Debris from a Tunnel Boring Machine Through Photographic Analysis and Comparison Between Excavation Performance and Rock Mass Properties [Rock Mechanics and Rock Engineering](https://www.scopus.com/sourceid/26268?origin=recordpage) Volume 50, Issue 10, 1 October 2017, Pages 2805-2816 DOI: 10.1007/s00603-017-1256-5

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