

CURRICULUM VITAE ET STUDIORUM

Dr. Francesco Mirabella

PRESENT POSITION

Since December **2017**: Associate Professor, University of Perugia (Italy).

Since December **2014**: Adjunct Research Professor in the Department of Geology, Appalachian State University, Boone NC, USA.

FUNDED PROJECTS

2017-2019: co-PI of the project "Characterisation of the hydrogeological systems of the area struck by the 2016 earthquake in the Umbria region. Evaluation of the earthquake effects on water supply. Funded by the Umbria Region 110k euros.

2017: Pi of the project "Seismic micro-zoning in the areas struck by the 2016 seismic crisis in Central Italy". Funded by the National Research Council, 24k euros.

2015-17: Pi of the project "Interconnections between tectonics and fluid circulation in the recent extensional basins: insights from case histories in Central Italy" funded by "Dept. of Physics and Geology, University of Perugia" 4k euros.

2012-13: Pi of the project "High precision surveys on recent deposits and bedrock rivers for the identification of potentially active faults" funded by "Fondazione Cassa di Risparmio, Perugia" 12k euros.

2007-09: Coordinator of the working package "Upper crust structure" within a project named "*Test-sites for the multidisciplinary monitoring of active faults - test site Altotiberina fault*" funded by INGV and by the Italian Civil Defense Department.

EDUCATION AND PREVIOUS EXPERIENCE

2014-2017: Research associate at the National Research Council, Institute for the Hydrogeological research and protection (CNR-IRPI).

2009-2017: University Researcher (Lecturer) in Structural Geology at the University of Perugia, Department of Physics and Geology.

2006-08: Research fellow at University of Perugia, Earth Sciences Department. Project "*Probable earthquakes in 2005-2035 in Italy*".

2004-05, Research contract at the "National Institute of Geophysics and Volcanology - INGV" (Rome). Project "*Active seismic sources in the Marche region (Central Italy)*".

2003-04 Post-Doctoral research fellow at the "Department of Earth Sciences of the University of Perugia (Italy). Project "*Integration of geological and geophysical data for the geometric and dynamic definition of the seismogenic faults of the Umbria-Marche chain*".

2003 PhD at the University of Perugia with a dissertation entitled "*Seismogenesis of the Umbria-Marche region (Central Italy): geometry and kinematics of the active faults and mechanical behaviour of the involved rocks*". The PhD project developed a research based on the integration of different data sources, aimed at a seismotectonic study of the Umbria-Marche region (Northern Apennines of Italy). The main tools were the surface geological mapping, structural analysis, the interpretation of about 300 km of seismic reflection profiles calibrated with boreholes. These data, independently acquired, were compared with seismological data of mainshocks and aftershocks sequences occurred in the area in the last 30 years in order to identify the geological expression of the

active faults. The aim was to identify the structural and lithological controls on the distribution of the seismic sequences and to understand if the different mechanical characteristics of the rocks could drive the distribution of the seismicity.

2001 Visiting researcher at the "Rock Deformation Laboratory" of the Earth Sciences Department of the University of Manchester (U.K.). The aim of the project was to perform rock deformation experiments on anhydrite-rich rocks in order to study their mechanical and frictional properties.

1998 Laurea (B.Sc + M.Sc) with honours (full marks with academic laude) in Geological Sciences with full marks and honours with a work entitled "*Integration of structural geological data and seismic reflection profiles across the Inner Ridge of the Umbria-Marche Apennines*".

RECENT INVOLVEMENT IN RESEARCH PROJECTS

2013 Miur-Premiale Pluto "Enhancing a Near Fault Natural Laboratory for the multi-disciplinary study of earthquake preparatory phase." INGV, Rome

2010 FP7 ERC 2010-StG Nr. 259256 GLASS project: "InteGrated Laboratories to investigate the mechanics of Aseismic vs Seismic faulting".

2010 Miur Prin 2009: "4D geological model of an extensional system driven by a low-angle normal fault from surface and subsurface data: the Altotiberina fault, Northern Apennines (Italy)"

TITLES

February 2003, PhD, University of Perugia. Thesis title: "*Seismogenesis of the Umbria-Marche region (Central Italy): geometry and kinematics of the active faults and mechanical behaviour of the involved rocks*", advisor, Prof. M. Barchi;

October 1998, BSc University of Perugia, full marks with honours (110/110 cum laude). Title: "*Integration of structural geology and seismic reflection data across the Inner Ridge of the Umbria-Marche Apennines*"

PROFESSIONAL MEMBERSHIPS

Member of the Italian Geological Society

Member of the European Geosciences Union

SERVICES

Reviewer for Geological Magazine, Annals of Geophysics, Geophysical Journal International, Journal of Structural Geology, Natural Hazards and Earth System Sciences (NHES), Geomorphology, Geosphere, Journal of the Geological Society (London).

Field-trip guide for the MOLE (Multidisciplinary Observatory and Laboratory Experiments at depth) workshop, May 2008. The field trip was across two extensional systems, the Colfiorito and Altotiberina systems in the Northern Apennines of Italy.

Field-trip guide for the Gordon Research Conference on Rock Deformation. The field trip was across the extensional tectonic structure of the Northern Apennines of Italy.

LANGUAGES

Italian, native language

English: fluent, both written and spoken

COMPUTER SCIENCE KNOWLEDGES

Operating systems: Unix/Linux, Mac-Os, MSDOS, Sun, Windows*

Software:

Text processors: LaTeX, OpenOffice, MS-Office;

Bibliographic databases: BibTeX

Electronic sheets: Gnumeric, Openoffice-calc, Excel;

Management of geographic data (G.I.S): GRASS-GIS, QGis, ArcGis;

Graphics: Sketch, Inkscape, Gimp, Adobe Illustrator, Corel Draw, Adobe Photoshop.

Programming languages: bash, some knowledges of PostScript ed HTML.

AWARDS

December 1999 My thesis (BSc+MSc) was awarded by Eni oil-company with the "*Thesis Award*", for the best 1998 thesis, award funded by SPE-EAGE-ASSOMIN.

RESEARCH

My research concerns the study of active faults and can be grouped into two main lines of research: 1) long-term deformations and 2) mid-short-term deformations.

The long-term-deformations (research line 1) are addressed through the investigation of faults segmentation and interaction both at the surface and at depth, the identification of the seismogenic layer thickness, the estimate of long-term deformation rates from balanced geological cross-sections, the comparison of geological data with earthquakes locations.

The mid-short-term deformations (research line 2) are addressed through the study of the tectono-sedimentary evolution of fault-controlled Quaternary basins, the landscape response to faulting in terms of both the morphological anomalies and the rivers network evolution as shown by rivers terraces and the rivers incision distribution.

Up to now the research activity has been focussed on the Northern Apennines of Italy which allow the application of different methodologies and the study of both compressional and extensional domains.

Research line 1 has taken benefits from the collaboration with the seismological group of the Italian Institute of Geophysics and Volcanology (INGV) and by data exchange with the ENI oil company. The main applications of this research concern the seismic risk and the activities related to drillings (deep boreholes and tunnels). I am involved in a ICDP drilling project "MOLE - Multidisciplinary Observatory and Laboratory of Experiments central Italy" aimed at drilling the Altotiberina low-angle normal fault in the Northern Apennines of Italy.

Research line 2 is aimed at filling the gap between long-term deformations (in the order of the MA) and active deformations (as revealed by seismicity and GPS data). This research is based on the extraction of active tectonics information from the landscape (in terms of both the morphology and the fluvial network) by using the competition between large-wavelength, regional deformations (e.g. regional uplift) and local effects due to active faulting (uplift/subsidence at foot-wall/hanging-wall of active faults). This research is in collaboration with CNR-IRPI (Italian Research Council, Institute for the Hydrogeological research and protection).

The main methods I use are the geological interpretation of geophysical data, field mapping, fault analysis, the construction of integrated geological cross-sections, aerial photographs interpretation, the management and analysis of geographical and digital topographic data into G.I.S. systems.

The products of the research are published on international journals and presented at several national and international conferences. The number of received citations since 2004 is 342 in WOS (ISI-web of science).

TEACHING EXPERIENCE

I presently hold the "Field mapping" and the "Structural Geology" courses at the University of Perugia.

The "Field mapping" course is given to the three-year degree students (BSc) and is composed of room and field classes. In the room classes the students learn how to read a geological map, extract both surface and subsurface information from a geological map and how to draw cross-sections and 1:10.000 and 1:25.000 scale.

The "Structural Geology" course is given to the Master's Degree (MSc) students. The students are taught the principles of stress, strain, fault and fold analysis, rock deformation, mechanics, faults growth and evolution, the reconstruction of paleo-stress from faults data. These topics are then explored within the framework of the main tectonic regimes. The course also foresees some field excursions in which the students take practice with the recognition and measurement of brittle structures and their plot and analysis in a stereographic projection.

Teaching activity in the field

I commonly lead field excursion for both undergraduate and graduate students. I also lead field excursions for foreign students in collaboration with foreign colleagues.

I organize and manage a 8-days field mapping camp for the third year of the BSc. The field camp is organized in collaboration with two colleagues at Appalachian State University (USA). We bring the two groups of students (Italians and Americans) together and make them work in groups of 4 (2 americans and 2 italians) to map an area of about 6-7 square kilometers at 1:10.000 scale. The students take practice

with the methods of mapping, the construction of lithology boundaries, the making of a stratigraphic column, and how to use a compass and a GPS. The students are trained to read a topographic and geological map and to draw cross-sections.

At the end of the camp each student has to draw her/his own geological map, cross section, stratigraphic column. As a group they present their work to the department staff during a short poster session.

This is a stimulating experience for both students and staff and is very much appreciated by the students of both nationalities.

Other teaching experiences

I am advisor of PhD students and of several BSc and MSc thesis concerning the seismotectonics and earthquake geology.

In **2015** I taught the "Structural Geology and maps reading" course for the Integrated Petroleum Geosciences Course of ENI oil company (IPGC course).

During **2010,2011,2012,2013,2014** I taught the "Geology of Earthquakes course" for the MSc.

During **2006,2007,2013** I taught in short-term opensource G.I.S. courses for professionals and public institution employees.

PUBLICATIONS

International and National Journals:

1. **Mirabella F.**, Bucci F., Santangelo M., Cardinali M., Caielli G., De Franco R., Guzzetti F., Barchi M. **2018**. "Alluvial fan shifts and stream captures driven by extensional tectonics in central Italy", *Journal of Geological Society, London* 175, 788-805. <https://doi.org/10.1144/jgs2017-138>.
2. Porreca M., Minelli G., Ercoli M., Brobia A., Mancinelli P., Cruciani F., Giorgetti C., Carboni F., **Mirabella F.**, Cavinato G., Cannata A., Pauselli C., Barchi M.R., **2018**. *Seismic Reflection Profiles and Subsurface Geology of the Area Interested by the 2016-2017 Earthquake Sequence (Central Italy)*. *Tectonics* 37, 1116-1137. <https://doi.org/10.1002/2017TC004915>
3. Chiaraluca L., Barchi M.R., Carannante S., Collettini C., **Mirabella F.**, Pauselli C. and Valoroso L. **2017**. "The role of rheology, crustal structures and lithology in the seismicity distribution of the northern Apennines", *Tectonophysics*, 694, 208-291, DOI: 10.1016/j.tecto.2016.11.011.
4. Latorre D., **Mirabella F.**, Chiaraluca L., Trippetta F. and Lomax A. **2016**. "Assessment of earthquake locations in 3-D deterministic velocity models: A case study from the Altotiberina Near Fault Observatory (Italy)". *Journal of Geophysical Research Solid Earth*, 121(11),8113-8135, doi:10.1002/2016JB013170.
5. Bucci F., **Mirabella F.**, Santangelo M., Cardinali M., Guzzetti F. **2016**. "Photo-geology of the Montefalco Quaternary Basin, Umbria, Central Italy", *Journal of Maps*, DOI: 10.1080/17445647.2016.1210042.
6. Caricchi C., Aldega L., Barchi M.R., Corrado S., Grigo D., **Mirabella F.**, Zattin M. **2015**. "Exhumation patterns along shallow low-angle normal faults: an example from the Altotiberina active fault system (Northern Apennines, Italy)". *Terranova*, 27, 312-321, doi:10.1111/ter.12163.
7. Pucci S., **Mirabella F.**, Pazzaglia F., Barchi M.R., Melelli L., Tuccimei P., Soligo M. and Saccucci L. **2014**. "Interaction between regional and local tectonic forcing along a complex Quaternary extensional basin: Upper Tiber Valley, Northern Apennines, Italy". *Quaternary Science Reviews*, 102, 111-132, DOI: 10.1016/j.quascirev.2014.08.009.
8. Melelli L., Pucci S., Saccucci L., **Mirabella F.**, Pazzaglia F., Barchi M.R. **2014**. "Morphotectonics of the Upper Tiber Valley (Northern Apennines, Italy) through quantitative analysis of drainage and landforms". *Rend. Fis. Acc. Lincei*, DOI 10.1007/s12210-014-0342-9.
9. Chiaraluca L., Amato A., Carannante S., Castelli V., Cattaneo M., Cocco M., Collettini C., D'Alema E., Di Stefano R., Latorre D., Lombardi A., Marzorati S., **Mirabella F.**, Monachesi G., Piccinini D., Nardi A., Piersanti A., Spada M., Valoroso L. **2014**. "THE ALTO TIBERINA NEAR FAULT OBSERVATORY (NORTHERN APENNINES, ITALY)". *Annals of Geophysics*, 57, 3, S0327; doi:10.4401/ag-6426.
10. Maesano F.E., Toscani G., Burrato P., **Mirabella F.**, D'Ambrogi C., Basili R. **2013**. "Deriving thrust fault slip rates from geological modeling: examples from the Marche coastal and offshore contraction belt, northern Apennines, Italy". *Marine and Petroleum Geology*, 42, 122-134.
11. Trippetta F., Collettini C., Barchi M.R., Lupattelli A. and **Mirabella F.** **2013**. "A multidisciplinary study of a natural CO₂ geological storage in central Italy". *International Journal of Greenhouse Gas Control*, 12, 72-83.
12. **Mirabella F.**, Brozzetti F., Lupattelli and Barchi M.R. **2011** "Tectonic evolution of an active low-angle extensional system in the Northern Apennines from restored cross-sections". *Tectonics*, 30, TC6002, DOI:10.1029/2011TC002890.
13. Barchi M.R. and **Mirabella F.** **2009**. "The 1997-98 Umbria-Marche earthquake sequence: 'Geological' vs. 'seismological' faults". *Tectonophysics*, 476, 170-179.
14. **Mirabella F.**, Barchi M.R. and Lupattelli A. **2008**. "Seismic reflection data in the Umbria Marche Region: limits and capabilities to unravel the subsurface structure in a seismically active area". *Annals of Geophysics*, 51(2/3).
15. **Mirabella F.**, Barchi M.R., Lupattelli A., Stucchi E. and Ciaccio M.G. **2008**. "Insights on the seismogenic layer thickness from the upper crust structure of the Umbria-Marche Apennines (Central Italy)". *Tectonics*, 27, TC1010, doi:10.1029/2007TC002134.

16. De Paola N., **Mirabella F.**, Barchi M.R. and Burchielli F. **2006**. "Early orogenic normal faults and their reactivation during thrust belt evolution: the Gubbio Fault case study, Umbria-Marche Apennines (Italy)". *Journal of Structural Geology*, 28, 1948-1957.
17. Stucchi E., **Mirabella F.** and Ciaccio M.G. **2006**. "Comparison between reprocessed seismic profiles seismologic and geologic data: a case study of the Colfiorito earthquake area". *Geophysics*, 71(2), B29-B40.
18. Ciaccio M.G., Barchi M.R., Chiarabba C., **Mirabella F.** and Stucchi E. **2005**. "Seismological, geological and geophysical constraints for the Gualdo Tadino fault, Umbria-Marche Apennines (Central Italy)". *Tectonophysics*, 406(3/4), 233-247.
19. **Mirabella F.**, Boccali V. and Barchi M.R. **2005**. "Segmentation and interaction of normal faults within the Colfiorito fault system (Central Italy)". In: Gapais D., Brun J.P. and Cobbold P.R. (eds): "Deformation Mechanisms, Rheology and Tectonics: from Minerals to the Lithosphere". *Geological Society, London, Special Publications*, 243, 25-36.
20. Chiaraluce L., Barchi M.R., Collettini C., **Mirabella F.** and Pucci S. **2005**. "Connecting seismically active normal faults with Quaternary geological structures: the Colfiorito 1997 case history (Northern Apennines, Italy)". *Tectonics*, 24, TC1002, doi:10.1029/2004TC001627.
21. **Mirabella F.**, Ciaccio M.G., Barchi M. and Merlini S. **2004**. "The Gubbio fault (Central Italy): geometry, displacement distribution and tectonic evolution". *Journal of Structural Geology*, 26, 2233-2249.
22. **Mirabella F.**, Barchi M.R., Chiaraluce L., Collettini C. and Pucci S. **2004**. "Multidisciplinary methods of investigation for a single fault". In: "Active faults: analysis, processes and monitoring COST-action 625" Eds. L.Piccardi & E. Tondi. Vol. Spec. *Studi Geologici Camerti*, 99-102.
23. Collettini C., Barchi M., Chiaraluce L., **Mirabella F.**, and Pucci S. **2003**. "The Gubbio fault: can different methods give pictures of the same object?". *Journal of Geodynamics*, 36, 51-66.
24. Barchi M., Collettini C., Chiaraluce L., **Mirabella F.**, Costanzo F., Massoli D., Minelli G., Pauselli C. and Pucci S. **2003**. "Tettonica estensionale e sismogenesi nell'Appennino Settentrionale". *Geodinamica Acta*, (0985-3111), 2, Special Issue, 9-12.
25. **Mirabella F.** & Pucci S. **2002**. "Integration of geological and geophysical data along a section crossing the region of the 1997-98 Umbria-Marche earthquake (Italy)". *Bollettino della Società Geologica Italiana*, Vol.Spec n° 1, 891-900, 8ff.
26. Barchi M., Cardinali M., Chiraz P., Collettini C., Federico C., Guzzetti F., Magnani B., Minelli G., **Mirabella F.**, Pauselli C., Piali G., Pucci S. & Troiani E. **2000**. "Integrazione di dati geofisici e geologici per la caratterizzazione delle strutture sismogenetiche di Colfiorito e di Gubbio". PE 98 - Progetto 5.1.1 in: Le ricerche del GNDT (Gruppo Nazionale per la Difesa dai Terremoti) nel campo della pericolosità sismica (1996-1999). A cura di: Galadini, C., Meletti C. and Rebez A. 149-156 pp. http://gndt.ingv.it/Pubblicazioni/Meletti/2_05_Barchi.pdf.

PhD Thesis:

27. **Mirabella F. (2002)** "Seismogenesis of the Umbria-Marche region (Central Italy): geometry and kinematics of the active faults and mechanical behaviour of the involved rocks". 121 pp. University of Perugia.

Technical reports:

28. Basili R., Burrato P., Mariano S., **Mirabella F.**, Ravaglia A., Valensise G. & Vannoli P. **(2005)** "Identificazione e caratterizzazione delle sorgenti sismogenetiche" Convenzione INGV-Regione Marche "Studio delle sorgenti sismogenetiche potenzialmente pericolose e degli effetti attesi a seguito di eventi sismici lungo la fascia costiera marchigiana nei tratti "Fano-Senigallia" e "Civitanova Marche - Pedaso".
29. Klinc P., Priolo E., **Mirabella F.** & Barchi M.R. **(2004)**. Coordinated Project "Sviluppo e confronto di metodologie per la valutazione della pericolosità sismica in aree sismogenetiche: applicazione all'Appennino centrale e meridionale". Open File Report: OFR TASK4 A7.2 "3D model and ground motion simulation for the Colfiorito area".

Invited Talks:

30. **Mirabella F.** (2016) "*Recent advances in the tectonic evolution of the Altotiberina fault - ATF (Northern Apennines, Italy)*". Seminar at the Taboo (the Altotiberina near fault observatory) meeting, Sanfaustino October <http://taboo.rm.ingv.it/>
31. **Mirabella F.** (2015) "*Extensional faulting in the Northern Apennines: the Altotiberina low angle normal fault*". Seminar at the Appalachian State University, Department of Geology, Boone, NC (USA), March, 2015.
32. **Mirabella F.** (2007) "*Seismic reflection data in the Umbria-Marche active area: limits and capabilities to unravel the subsurface structure*". Colfiorito 1997-2007: evolution of the studies on an earthquake", Roma 8-10 Ottobre 2007, organised by INGV and Roma3 University.

Abstracts (last ten years):

33. **Mirabella F.**, Bucci F., Santangelo M., Cardinali M., Barchi M.R. and Guzzetti F. (2018) *Growth and evolution of alluvial fans in response to extensional tectonics. A case study in central Italy*. European Geosciences Union General Assembly 2018 Vienna, Austria, 8-13 April 2018, oral, EGU2018-4538.
34. Valigi D., Cambi C., Cardellini C., **Mirabella F.**, Mastrorillo L., Renghi D., Viaroli S., Beddini G., and Caliro S. (2018). *Modification of groundwater circulation induced by the Central Italy earthquakes: the case of Torbidone system (Norcia Plain, Italy)*. European Geosciences Union General Assembly 2018 Vienna, Austria, 8-13 April 2018, poster, EGU2018-8586.
35. Mancinelli P., Pauselli C., Porreca M., Minelli G., Ercoli M., Brobia Ansoleaga A., Cruciani F., Giorgetti C., Carboni F., **Mirabella F.**, Cannata A., and Barchi M.R. (2018). *Modeling of gravity and magnetic anomalies across the area interested by the 2016-2017 seismic sequence in central Italy*. European Geosciences Union General Assembly 2018 Vienna, Austria, 8-13 April 2018, poster EGU2018-10406.
36. Porreca M., Minelli G., Ercoli M., Brobia Ansoleaga A., Mancinelli P., Cruciani F., Giorgetti C., Carboni F., **Mirabella F.**, Cannata A., Pauselli C. and Barchi M.R. (2018). *Geological interpretation of seismic reflection profiles across the area interested by the Norcia Mw 6.5 mainshock (Central Italy)*. European Geosciences Union General Assembly 2018 Vienna, Austria, 8-13 April 2018, oral EGU2018-10256.
37. Valigi D., Cambi C., Mastrorillo L., Barchi M., Checcucci R., Di Matteo L., Frondini F., **Mirabella F.**, Viaroli S., Vispi I. (2017) *Discharge variations of springs induced by strong earthquakes: the case of the MW 6.5 Norcia event (Italy, October 30th 2016)*. FLOWPATH 2017 National Meeting on Hydrogeology Cagliari, 14-16 June 2017.
38. **Mirabella F.**, Bucci F., Cardinali M., Santangelo M., Barchi M.R. and Guzzetti F. (2017) *Tectonically induced base-level change in the Quaternary revealed by alluvial fan shifts and rivers re-organization. A case study in the Northern Apennines of Italy*. Penrose Conference, 250 Million Years of Earth History in Central Italy: Celebrating 25 years of the Geological Observatory of Coldigioco. September 25-29, 2017 Apiro, Italy.
39. **Mirabella F.**, Bucci F., Cardinali M., Santangelo M. and Guzzetti F. (2016) *Tectono-sedimentary evolution of an extensional basin revealed by a combined photo-geological and field-mapping approach. The Montefalco Basin (Northern Apennines, Italy)*. Geophysical Research Abstracts Vol. 18, EGU2016-6866-1, 2016 EGU General Assembly 2016.
40. **Mirabella F.**, Bucci F., Cardinali M., Santangelo M. and Guzzetti F. (2014) *Morpho-structural features of extensional basins revealed from aerial photographs interpretation and structural data in the Northern Apennines (Italy)*. Italian Geological Society meeting Milano 10-12 Settembre 2014.
41. **Mirabella F.**, Aldega L., Barchi M.R., Caricchi C., Corrado S., De Donatis M., Grigo D., Lupattelli A., Susini S. and Zattin M. (2014) *Growth pattern and tectonic evolution of a regional low angle normal fault from sequential restoration techniques*. Geometry and Growth of Normal Faults 23-25 June 2014, The Geological Society, Burlington House, London.
42. La Torre D., Lupattelli A., **Mirabella F.**, Trippetta F., Valoroso L., Lomax A., Di Stefano R., Collettini C. and Chiaraluce L. (2014) *A 3-D velocity model for earthquake location from combined geological and geophysical data: a case study from the TABOO near fault observatory*

- (Northern Apennines, Italy). Geophysical Research Abstracts Vol. 16, EGU2014-PREVIEW, 2014 EGU General Assembly 2014.
43. De Donatis M., Susini S., **Mirabella F.**, Lupattelli A. and Barchi M.R. (2014) "4D modelling of the Alto Tiberina Fault system (Northern Apennines, Italy)". Geophysical Research Abstracts Vol. 16, EGU2014-10353, 2014 EGU General Assembly 2014.
 44. **Mirabella F.**, Caricchi C., Aldega L., Barchi M.R., Corrado S., Grigo D., Zattin M. (2013). *Uplift at the foot-wall of a low-angle normal fault from kinematic reconstructions and paleothermal and thermochronological indicators*. 9th TOPO-EUROPE Workshop, October 9-11, 2013, Certosa di Pontignano, Italy.
 45. Guzzetti F., Bucci F., Cardinali M., Fiorucci F., **Mirabella F.**, Santangelo M., Reichenbach P. (2013). *Active Deformation, Earthquakes, Landslides*. 9th TOPO-EUROPE Workshop, October 9-11, 2013, Certosa di Pontignano, Italy.
 46. Baglioni S., **Mirabella F.**, Lupattelli A., Pauselli C. (2013). *Isostatic rebound at the foot-wall of a low-angle normal fault in the Northern Apennines of Italy*. 9th TOPO-EUROPE Workshop, October 9-11, 2013, Certosa di Pontignano, Italy.
 47. **Mirabella F.**, Bucci F., Cardinali M., Guzzetti F. (2013). *Morpho-structural features and drainage pattern related to extensional faulting: an example from the Northern Apennines (Italy)*. VIII International Congress of the International Association of Geomorphology (IAG). Paris 27-31 August 2013.
 48. **Mirabella F.**, Pucci S., DeMartini P.M., Civico R., Buratti N., Baglioni S., Smedile A. (2013). *Morphological and hydrological response to extensional faulting. An example from the Northern Apennines of Italy*. VIII International Congress of the International Association of Geomorphology (IAG). Paris 27-31 August 2013.
 49. **Mirabella F.**, Bucci F., Cardinali M., Guzzetti F. (2013). *Elementi morfo-strutturali e reticolo idrografico in relazione alla tettonica estensionale: un esempio in Appennino Settentrionale*. meeting "Dialogo intorno al paesaggio, percezione, interpretazione, rappresentazione" Perugia dal 20 al 22 Febbraio 2013.
 50. Caricchi C., Aldega L., Barchi M.R., Corrado S., Grigo D., **Mirabella F.**, Zattin M. (2013). *Kinematic evolution of the Altotiberina extensional fault system (Northern Apennines) constrained by paleothermal and thermochronological indicators*. *Fist, Geoitalia, Pisa*.
 51. Caricchi C., Aldega L., Barchi M.R., Corrado S., **Mirabella F.**, Zattin M. (2013). *Paleothermal and thermochronological constraints to the kinematic evolution of an extensional system driven by a low-angle normal fault: the case history of the Altotiberina fault (Northern Apennines, Italy)*. Geophysical Research Abstracts Vol. 15, EGU2013-11693, 2013 EGU General Assembly 2013.
 52. **Mirabella F.**, Barchi M., Lupattelli A. (2013). *The contribute of surface and subsurface geological data to reconstruct the tectonic evolution of a LANF*. Taboo meeting, Ancona 23-24 April 2013. Invited
 53. Vadacca L., Casarotti E., Chiaraluca L., **Mirabella F.** (2012). *Interseismic stress build-up and stress rotations between low and high-angle normal faults in the Northern Apennines (Italy): Insight from 2D and 3D numerical simulations*. T13E-2659 AGU Fall-meeting, San Francisco, December 2012.
 54. Melelli L., Saccucci L., Fiorucci L., Barchi M.R., **Mirabella F.**, Pazzaglia F., Pucci S. (2012). *Geomorphological quantitative analysis of High Tiber Valley drainage network (Umbria, Italy)*. Rendiconti online della Società Geologica Italiana, vol. 21, 1120-1121.
 55. **Mirabella F.**, Menichelli M., Pazzaglia F., Pucci S., Melelli L., Saccucci L. & Barchi M.R. (2012) "Tectonic control on extensional basins infill and on rivers incision. Examples from the Northern Apennines of Italy". EGU meeting in Vienna, 22-27 April, 2012.
 56. **Mirabella F.**, Barchi M., Brozzetti F., Lupattelli A., Melelli L., Saccucci L., Pazzaglia F. & Pucci S. (2010). "Comparing long term deformations and short term fluvial response at the hanging-wall of an active low angle normal fault in the Northern Apennines of Italy". William Smith Meeting 2010 - Landscapes Into Rock, London 21-23 September 2010.

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