Curriculum vitae et studiorum of Fabio Mantovani

Department of Physics and Earth Sciences
University of Ferrara
Via Saragat 1 - 44122 - Ferrara - Italy
mantovani@fe.infn.it
https://www.fe.infn.it/radioactivity/

RÉSUMÉ

Fabio Mantovani graduated in Physics at the University of Ferrara in 2002 and since then he began working on geoneutrinos and gamma-ray spectroscopy, topics of great interest which exhibit currently strong interconnections among physical, geological and environmental disciplines. During his graduate studies in Earth science at the University of Siena he carried out research activities in these scientific areas. The main outcomes of these studies have been collected in a PhD thesis dedicated to the investigation of the potential of geoneutrinos as a probe for exploring the Earth.

After starting in 2008 his activity as a research fellow at the University of Ferrara, Fabio Mantovani published global models for the prediction of geoneutrino signal expected at the KamLAND, Borexino, SNO+ and JUNO experiments. These studies immediately became references at international level. After more than 80 scientific papers published together with Earth scientists and particle physicists, he is firmly convinced of the exceptional potentialities arising from the interplay of skills transcending conventional academic boundaries. He participated in many scientific committees of international congresses, and organized and supported dedicated sessions, summer institutes and summer schools.

Concurrently, Fabio Mantovani gained a strong expertise in management as he founded in 2006 the *Laboratory of Applied Geophysics* at the Center for GeoTechnology (University of Siena) and in 2010 the *Laboratory for Nuclear Technologies Applied to the Environment* at the Department of Physics and Earth Sciences (University of Ferrara).

Fabio Mantovani believes that the success of an idea strongly depends on the efficiency with which the scientific, technological and economic activities interplay with each other. Supported by international collaborations and winning grants, he contributed to consolidate a team of young researchers which realized successful projects in airborne gamma-ray spectroscopy, radioactivity mapping and nuclear technologies for nuclear wastes, NORMs (Naturally Occurring Radioactive Materials) and agriculture 4.0. His curiosity led him to explore new fields in which nuclear physics can be applied, inventing a patent, contributing to map the natural radioactivity of several Italian regions and developing new Unmanned Aerial Vehicle (UAV) for radioactivity monitoring. Recently his efforts are focused on bridging the gap between academic research and industrial commercialization together with many private companies.

Fabio Mantovani has always carried out an intensive teaching activity with courses at the University of Siena and University of Ferrara, on arguments of astrophysics, geophysics, environmental radioactivity, and precision agriculture. He was advisor/co-advisor of 16 Bachelor Theses, 13 Master Theses and 12 PhD Theses. He also had several outreach and dissemination initiatives.

As an INFN (National Institute for Nuclear Physics) associate researcher, since 2015 he is the coordinator of the Ferrara section of Jiangmen Underground Neutrino Observatory (JUNO), an international experiment supported by 77 institutions from 17 countries and involving more than 600 scientists. Presently he is the coordinator of Italian analysis team for JUNO experiment. Since 2017 he is member of National Science Committee II, as the local coordinator of the Ferrara INFN section.

First as an assistant professor (2008-2018) then as an associate professor (2018 – now), Fabio Mantovani held several positions at the University of Ferrara: he was member of Academic Senate of the University of Ferrara (February 2017 – February 2018), member of Scientific Committee of Tecnopolo Terra&AcquaTech (2018 – now) and coordinator of bachelor's and master's degree programs in physics (University of Ferrara (2022 – now).

Summary

ACADEMIC CAREER

September 2019
Italian National Scientific Habilitation – Full professor in Astronomy, Astrophysics, Physics of the Earth and the Planets (02/C1)

February 2018
Associate professor in Physics of the Earth and of the circumterrestrial medium (FIS/06) – Department of Physics and Earth Sciences – University of Ferrara

November 2008
Assistant professor in Nuclear and Subnuclear Astrophysics (FIS/04) – Department of Physics and Earth Sciences – University of Ferrara

November 2006
Two-year post-doc position at Center for GeoTechnology - University of Siena

October 2006
PhD in Earth Science – University of Siena
Thesis: *Geo-neutrinos: a new probe of Earth's interior*

October 2002
Four-year doctoral fellowship – University of Siena

November 2001
Master's degree in physics - University of Ferrara
Thesis: *Cosmic microwave radiation and the determination of cosmological observables*

PRESENT INSTITUTIONAL SERVICES

- Coordinator of bachelor's and master's degree programs in physics of University of Ferrara (2022 – now)
- Member of the academic board of the national Doctoral Programme in Space Science and Technology (SST) PhD in Physics of University of Ferrara (2021 – now)
- Member of the academic board of the Doctoral Programme in Physics (University of Ferrara) (2014 – now)
- Member of Scientific Committee of Tecnopolo Terra&AcquaTech (2018 – now)
- Member of National Science Committee II (Astroparticle physics experiments) – INFN (2017 – now)
- Member of the Steering Committee of International School on AstroParticle Physics (ISAPP) - European Doctorate School (2015 – now)
- Local coordinator of JUNO experiment (Jiangmen Underground Neutrino Observatory - China) at INFN Ferrara section (2015 – now)
- Local coordinator of Borexino experiment at INFN Ferrara section (2009 – 2014)
- Head of the Laboratory for nuclear technologies applied to the environment – Department of Physics and Earth Science University of Ferrara – (2009 – now)

ENDED INSTITUTIONAL SERVICES

2022 – Member of the PhD admission committee in Physics (XXXVIII cycle), University of Ferrara
2022 – President of the committee – Competition for a staff position: administrative collaborator (level VII) – INFN Padova
2022 – President of the committee – Competition for a staff position: administrative collaborator (level VII) – INFN Ferrara
2021 – Member of the PhD admission committee in Physics (XXXVII cycle), University of Ferrara
2021 – President of the committee – Competition for a staff position: administrative collaborator (level VII) – INFN Padova
2021 – Member of the committee – Competition for a RTDa position – University of Ferrara
2019 – Member of the PhD examining committee in Earth Science, University of Maryland
2017 – 2018 – Member of Academic Senate, University of Ferrara
2016 – 2017 – Member of University Research Council, University of Ferrara
2013 – 2017 – member of COST Action TU1301 - NORM for Building materials (NORM4BUILDING)
2016 – Member of the PhD admission committee in Physics (XXXII cycle), University of Ferrara
2016 – Member of the PhD admission committee in Earth Science, University of Maryland
2014 – Member of the PhD admission committee in Physics (XXX cycle), University of Ferrara
2013 – Member of the PhD Thesis Committee, PhD in Earth Science, Université Joseph Fourier of Grenoble

2013 – Member of the PhD admission committee in Physics (XXIX cycle), University of Ferrara
2007 – 2009 – Head of the Laboratory for applied geophysics at Center for GeoTechnology, University of Siena

PRINCIPAL INVESTIGATOR OF RESEARCH PROJECTS

Period	Acronym	Title of the project	Funding agency
2022 2024	3D GRAPEVINE	Point cloud 3d imaging for precision farming	Agrobit S.r.l.
2021 2024	GAMON Drone	Development of algorithms of gamma spectroscopy analysis to be implemented aboard drones	CAEN S.p.A.
2020 2023	RADHAWK	Gamma-ray spectrometry systems for UAV	DroneLab S.r.l.
2020 2023	LIGHTHOUSE3D	New online 3D imaging technologies for geophysical surveys	Lighthouse S.p.A.
2020 2022	TOMMY	Gamma and x spectroscopy applied to study agricultural soils	Bi-Rex Consortium
2019 2022	CAVARAD	Development of an automated in situ natural radioactivity measurement system	GeoExplorer S.r.l
2012 2020	ITALRAD	Mapping the natural radioactivity of the Italian territory with gamma-ray spectroscopy surveys.	MIUR – Premium project
2015 2019	UMBRIA RAD	Mapping the effective dose rate of the population living in Umbria due to terrestrial and cosmic radiations	Umbria Region
2015 2019	ATTIVAMENTE	Going to the school together with radioactivity	CARIPARO Foundation

CO-INVESTIGATOR OF RESEARCH PROJECTS

Period	Acronim	Title of the project	Funding agency
2022 2023	STELLA	Sistema integrator per Lo studio del contenuto d'acqua in agricoLturA	Tuscany Region – POR-FESR
2019 2021	POSITIVE	Scalable Operating Protocols for precision agriculture	Emilia Romagna Region - POR-FESR
2016 2018	ALADIN	Smart Hydro Agri-food	Emilia Romagna Region - POR-FESR
2009 2013	RAD MONITOR	Distribution of natural radioelements across the Veneto Region using airborne gamma-ray spectrometry	CARIPARO Foundation
2008 2010	RADNAT	Potential content of natural radioactivity of the Region of Tuscany territory	Tuscany Region - CIPE

SCIENTIFIC CONSULTANT

Period	Acronim	Title of the project	Funding agency
2020 2021	RAD DRONE	Airborne gamma ray spectroscopy on board of aircraft and drones	Italian Aerospace Research Centre - CIRA
2020 2021	SPOILER	Gamma spectrometer for the on-site characterization of unconventional medical radioactive waste	Emilia Romagna Region - POR-FESR
2019 2020	RAD GRANITE	Studying petrofacies of granitic bodies using gamma-ray logs	ENEL Green Power
2018 2020	CORSAIR	Cloud Oriented Radiation Sensor for Advanced Investigation of Rocks	Tuscany Region - POR-FESR

PATENTS

No. RM2012A000180 26 April 2012
Property: University of Ferrara, University of Siena and Carlos Rossi Alvarez
Inventors: Fabio Mantovani, Gerti Xhixha, Tommaso Colonna, Carlos Rossi Alvarez
Title: "Dispositivo attivo MCA stand-alone per la digitalizzazione di segnali di spettroscopia gamma outdoor"
Ns. Rif.: BREV/ bc/A1722

MEMBER OF SCIENTIFIC COMMITTEES

2019 - Neutrino Geoscience 2019 Conference - Prague - 21-23 October - Czech Republic
2015 - now - International School on AstroParticle Physic - ISAPP - European Doctorate School
2015 - 2018 - Summer School in Nuclear Physics and Technologies - University of Ferrara and the College of Engineering of the University of Texas at Austin
2018 - Summer Institute (ISAPP): using particle physics to understand and image the Earth (II ed.) - Ferrara - 2-12 July - Italy
2016 - Summer Institute (ISAPP): using particle physics to understand and image the Earth (I ed.) - Gran Sasso Science Institute - 11-21 July - Italy
2015 - Neutrino Geoscience 2015 Conference - Paris - 15-17 June - France
2015 - International Workshop on KamLAND Geoscience - Tokyo - 15-16 January - Japan
2013 - Convener of the session - Geoneutrino: the nexus of particle physics and Earth science - Goldschmidt 2013 - Florence - 27 August - Italy
2013 - Neutrino Geoscience 2013 Conference - Takayama - 23-23 March - Japan
2010 - Neutrino Geoscience 2010 Conference - Gran Sasso Laboratory - 6-8 October - Italy

REFEREE FOR SCIENTIFIC JOURNALS

Annals of Geophysics (Ann Geophys Italy)
Applied Radiation and Isotopes (Appl. Radiat. Isot.)
Arabian Journal of Geosciences (Arab J Geosci Journal)
Computers & Geosciences (Comput Geosci)
Earth and Planetary Science Letter (EPSL)
Environmental Earth Sciences (Environ. Earth Sci.)
European Journal of Mineralogy (Eur. J. Mineral.)
Geosciences (Geosciences)
Journal of African Earth Sciences (J Afr Earth Sci)
Journal of Environmental Radioactivity (JER)
Journal of Geodynamics (J Geodyn)
Journal of Instrumentation (JINST)
Journal Of Plant Nutrition And Soil Science (J. Plant. Nutr. Soil Sci.)
Journal of Radiological Protection (JRPR)
Physical Review D (PRD)
Progress in Particle and Nuclear Physics (Prog. Part. Nucl. Phys.)
Remote Sensing (Remote Sens.)
Reviews of Geophysics (Rev. Geophys.)

PEER REVIEWED SCIENTIFIC PAPERS

2022

Abusleme, A., et al. [JUNO Collaboration]. Mass testing and characterization of 20-inch PMTs for JUNO. The European Physical Journal C, 82 (12), (2022). DOI: 10.1140/epjc/s10052-022-11002-8.

Maino A., M. Albéri, E. Anceschi, E. Chiarelli, L. Cicala, T. Colonna, M. De Cesare, E. Guastaldi, N. Lopane, F. Mantovani, M. Marcialis, N. Martini, M. Montuschi, S. Piccioli, K.G.C. Raptis, A. Russo, F. Semenza and V. Strati. *Airborne Radiometric Surveys and Machine Learning Algorithms for Revealing Soil Texture.* Remote Sensing, 14(15), 3814 (2022). DOI: 10.3390/rs14153814 (pdf)

Raptis K.G.C., M. Albéri, S. Bisogno, I. Callegari, E. Chiarelli, L. Cicala, T. Colonna, M. De Cesare, E. Guastaldi, A. Maino, F. Mantovani, M. Montuschi, A. Motti, N. Natali, M. Ogna, F. Semenza, A. Serafini, G. Simone and V. Strati. *External effective dose from natural radiation for the Umbria region (Italy).* Journal of Maps, 18 (2), 461- 471 (2022). DOI 10.1080/17445647.2022.2093659 (pdf)

Finco, A., D. Bentivoglio, G. Chiaraluce, M. Alberi, E. Chiarelli, A. Maino, F. Mantovani, M. Montuschi, K. G. C. Raptis, F. Semenza, V. Strati, F. Vurro, E. Marchetti, M. Bettelli, M. Janni, E. Anceschi, C. Sportolaro and G. Bucci. *Combining Precision Viticulture Technologies and Economic Indices to Sustainable Water Use Management*. Water 14(9), 1493 (2022). DOI 10.3390/w14091493 (pdf)

Bellini, Gianpaolo, K. Inoue, F. Mantovani, A. Serafini, V. Strati and H. Watanabe. *Geoneutrinos and geoscience: an intriguing joint-venture.*.Rivista del Nuovo Cimento 45, 1-105 (2022). DOI 10.1007/s40766-021-00026-7 (pdf)

Wang, J., et al. [JUNO Collaboration]. *Damping signatures at JUNO, a medium-baseline reactor neutrino oscillation experiment.* Journal of High Energy Physics 62 (2022). DOI 10.1007/JHEP06(2022)062 (pdf)

Abusleme, A., et al. [JUNO Collaboration]. *JUNO physics and detector.* Progress in Particle and Nuclear Physics 123, 103927 (2022). DOI 10.1016/j.ppnp.2021.103927 (pdf)

Abusleme, A., et al. [JUNO Collaboration]. *Prospects for detecting the diffuse supernova neutrino background with JUNO.* Journal of Cosmology and Astroparticle Physics, 10 (2022). DOI 10.1088/1475-7516/2022/10/033 (pdf)

Abusleme, A., et al. [JUNO Collaboration]. *Sub-percent precision measurement of neutrino oscillation parameters with JUNO.* Chinese Physics C, 46 (2022). DOI 10.1088/1674-1137/ac8bc9 (pdf)

Zavatarelli S. et al. [Borexino Collaboration]. *Geoneutrino Detection and Other Non-Solar Neutrino Physics Achievements of Borexino.* Moscow University Physics Bulletin 77(2) (2021). DOI 10.3103/S0027134922021107 (pdf).

2021

Cabrera, A., et al. [LiquidO Consortium]. *Neutrino physics with an opaque detector*. Communications Physics 4, 273 (2021). DOI 10.1038/s42005-021-00763-5 (pdf)

Abusleme, A., et al. [JUNO Collaboration]. *Radioactivity control strategy for the JUNO detector*. Journal of High Energy Physics, 102 (2021). DOI 10.1140/epjc/s10052-021-09544-4 (pdf).

Abusleme, A., et al. [JUNO Collaboration]. *The design and sensitivity of JUNO's scintillator radiopurity pre-detector OSIRIS*. The European Physical Journal C., 81, 973 (2021). DOI 10.1007/JHEP11(2021)102 (pdf).

Serafini, A., M. Albéri, M. Amoretti, S. Anconelli, E. Bucchi, S. Caselli, E. Chiarelli, L. Cicala, T. Colonna, M. De Cesare, S. Gentile, E. Guastaldi, T. Letterio, A. Maino, F. Mantovani, M. Montuschi, G. Penzotti, K. G. C. Raptis, F. Semenza, D. Solimando and V. Strati. *Proximal Gamma-Ray Spectroscopy: An Effective Tool to Discern Rain from Irrigation*.Remote Sensing 13(20) (2021). DOI 10.3390/rs13204103 (pdf).

Abusleme, A., et al. [JUNO Collaboration]. *JUNO sensitivity to low energy atmospheric neutrino spectra*. European Physical Journal C 81(10) (2021). DOI 10.1140/epjc/s10052-021-09565-z (pdf).

Abusleme, A., et al. [JUNO Collaboration]. *Calibration strategy of the JUNO experiment*. Journal of High Energy Physics 3(4) (2021). DOI 10.1007/JHEP03(2021)004 (pdf).

Marini, M., S. Panicacci, M. Donati, L. Fanucci, E. Fanchini, A. Pepperosa, M. Morichi, M. Albéri, E. Chiarelli, M. Montuschi, K.G.C. Raptis, A. Serafini, V. Strati, F. Mantovani. *An Easily Integrable Industrial System for Gamma Spectroscopic Analysis and Traceability of Stones and Building Materials*. Sensors, 21, 352 (2021). DOI 10.3390/s21020352 (pdf).

Abusleme, A., et al. [JUNO Collaboration]. *Feasibility and physics potential of detecting 8B solar neutrinos at JUNO*. Chinese Physics C 45(2) (2021). DOI 10.1088/1674-1137 (pdf).

Abusleme, A., et al. [JUNO Collaboration]. *Optimization of the JUNO liquid scintillator composition using a Daya Bay antineutrino detector*. Nuclear Instruments and Methods in Physics Research Section A, 988, 164823 (2021). DOI 10.1016/j.nima.2020.164823 (pdf).

Bellato M., A. Bergnoli, A. Brugnera, S. Chen, Z. Chen, B. Clerbaux, F. dal Corso, D. Corti, J. Dong, G. Galet, A. Garfagnini, A. Giaz, G. Gong, C. Grewing, J. Hu, R. Isocrate, X. Jiang, F. Li, F. Li, I. Lippi, F. Marini, Z. Ning, A. Olshevskiy, D. Pedretti, P.A. Petitjean, M. Robens, V. Shutov, A. Stahl, J. Steinmann, Y. Sun, S. van Waasen, Y. Wang, Z. Wang, W. Wei, X. Yan, Y. Yang, A. Aiello, A. Andronico, V. Antonelli, W. Bandini, A. Brigatti, A. Barresi, A. Budano, R. Bruno, A. Cabrera, A. Cammi, R. Caruso, D. Chiesa, C. Clementi, S. Costa, X. Ding, S. Dusini, A. Fabbri, M. Fargetta, G. Fiorentini, R. Ford, A. Formozov, M. Giammarchi, M. Grassi, C. Landini, P. Lombardi, C. Lombardo, Y. Malyshkin, F. Mantovani, S.M. Mari, C. Martellini, A. Martini, E. Meroni, M. Mezzetto, L. Miramonti, P. Montini, M. Montuschi, M. Nastasi, F. Ortica, A. Paoloni, S. Parmeggiano, N. Pelliccia, E. Previtali, G. Ranucci, D. Riondino, A.C. Re, B. Ricci, A. Romani, P. Saggese, G. Salamanna, F.H. Sawy, A. Serafini, G. Settanta, C. Sirignano, M. Sisti, L. Stanco, V. Strati, C. Tuvé, G. Verde, L. Votano, J. Zhang. *Embedded readout electronics R&D for the large PMTs in the JUNO experiment*. Nuclear Instruments and Methods in Physics Research Section A, 985, 164600 (2021). DOI 10.1016/j.nima.2020.164600 (pdf).

2020

Bottardi C., M. Albéri, M. Baldoncini, E. Chiarelli, M. Montuschi, K.G.C. Raptis, A. Serafini, V. Strati, F. Mantovani. *Rain rate and radon daughters' activity*. Atmospheric Environment, 238, 117728 (2020). DOI 10.1016/j.atmosenv.2020.117728 (pdf).

Agostini, M., et al. [Borexino Collaboration]. *Comprehensive geoneutrino analysis with Borexino*. Physical Review D 101(1), 012009 (2020). DOI 10.1103/PhysRevD.101.012009 (pdf).

Filippucci, P., A. Tarpanelli, C. Massari, A. Serafini, V. Strati, M. Alberi, K. G. C. Raptis, F. Mantovani, L. Brocca. *Soil moisture as a potential variable for tracking and quantifying irrigation: a case study with proximal gamma-ray spectroscopy data*. Advances in Water Resources, 136, 103502 (2020). DOI 10.1016/j.advwatres.2019.103502 (pdf).

Fabbri, B., M. Valt, C. Parretta, S. Gherardi, A. Gaiardo, C. Malagù, F. Mantovani, V. Strati, V. Guidi. *Correlation of gaseous emissions to water stress in tomato and maize crops: From field to laboratory and back.* Sensors and Actuators B: Chemical, 303, 127227 (2020). DOI 10.1016/j.snb.2019.127227 (pdf).

2019

Pedretti, D., Bellato, M., Isocrate, R., Bergnoli, A., Brugnera, R., Corti, D., Corso, F. D., Galet, G., Garfagnini, A., Giaz, A., Lippi, I., Marini, F., Andronico, G., Antonelli, V., Baldoncini, M., Bernieri, E., Brigatti, A., Budano, A., Buscemi, M., Bussino, S., Caruso, R., Chiesa, D., Clementi, C., Ding, X. F., Dusini, S., Fabbri, A., Ford, R., Formozov, A., Giammarchi, M., Grassi, M., Insolia, A., Lombardi, P., Mantovani, F., Mari, S. M., Martellini, C., Martini, A., Meroni, E., Miramonti, L., Monforte, S., Montini, P., Montuschi, M., Nastasi, M., Ortica, F., Paoloni, A., Previtali, E., Ranucci, G., Re, A. C., Ricci, B., Romani, A., Salamanna, G., Sawy, F. H., Settanta, G., Sisti, M., Sirignano, C., Stanco, L., Strati, V., Verde, G. *Nanoseconds Timing System Based on IEEE 1588 FPGA Implementation*. IEEE Transactions on Nuclear Science 2019, 66, (7), 1151-1158 (2019). DOI 10.1109/TNS.2019.2906045 (pdf).

Reguzzoni, M., L. Rossi, M. Baldoncini, I. Callegari, P. Poli, D. Sampietro, V. Strati, F. Mantovani, G. Andronico, V. Antonelli, M. Bellato, E. Bernieri, A. Brigatti, R. Brugnera, A. Budano, M. Buscemi, S. Bussino, R. Caruso, D. Chiesa, D. Corti, F. Dal Corso, X. F. Ding, S. Dusini, A. Fabbri, G. Fiorentini, R. Ford, A. Formozov, G. Galet, A. Garfagnini, M. Giammarchi, A. Giaz, M. Grassi, A. Insolia, R. Isocrate, I. Lippi, F. Longhitano, D. Lo Presti, P. Lombardi, Y. Malyshkin, F. Marini, S. M. Mari, C. Martellini, E. Meroni, M. Mezzetto, L. Miramonti, S. Monforte, M. Montuschi, M. Nastasi, F. Ortica, A. Paoloni, S. Parmeggiano, D. Pedretti, N. Pelliccia, R. Pompilio, E. Previtali, G. Ranucci, A. C. Re, B. Ricci, A. Romani, P. Saggese, G. Salamanna, F. H. Sawy, G. Settanta, M. Sisti, C. Sirignano, M. Spinetti, L. Stanco, G. Verde and L. Votano. *GIGJ: a crustal gravity model of the Guangdong Province for predicting the geoneutrino signal at the JUNO experiment.* Journal of Geophysical Research: Solid Earth, 2169, 9313-9342 (2019). DOI 10.1029/2018JB016681 (pdf).

Albéri, M., M. Baldoncini, C. Bottardi, E. Chiarelli, S. Landsberger, K. Raptis, A. Serafini, V. Strati and F. Mantovani. *Training future engineers to be ghostbusters: hunting for the spectral environmental radioactivity.* Education Sciences, 9, 15 (2019). DOI 10.3390/educsci9010015 (pdf).

Lombardi, P., M. Montuschi, A. Formozov, A. Brigatti, S. Parmeggiano, R. Pompilio, W. Depnering, S. Franke, R. Gaigher, J. Joutsenvaara, A. Mengucci, E. Meroni, H. Steiger, F. Mantovani, G. Ranucci, G. Andronico, V. Antonelli, M. Baldoncini, M. Bellato, E. Bernier, R. Brugnera, A. Budano, M. Buscemi, S. Bussino, R. Caruso, D. Chiesa, C. Clementi, D. Corti, F. Dal Corso, X. F. Ding, S. Dusini, A. Fabbri, G. Fiorentini, R. Ford, G. Galet, A. Garfagnini, M. Giammarchi, A. Giaz, M. Grassi, A. Insolia, R. Isocrate, I. Lippi, Y. Malyshkin, S. M. Mari, F. Marini, C. Martellini, A. Martini, M. Mezzetto, L. Miramonti, S. Monforte, P. Montini, M. Nastasi, F. Ortica, A. Paoloni, D. Pedretti, N. Pelliccia, E. Previtali, A. C. Re, B. Ricci, D. Riondino, A. Romani, P. Saggese, G. Salamanna, F. H. Sawy, G. Settanta, M. Sisti, C. Sirignano, L. Stanco, V. Strati, G. Verde and L. Votano. *Distillation and stripping pilot plants for the JUNO neutrino detector: Design, operations and reliability.* Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 925, 6-17 (2019). DOI 10.1016/j.nima.2019.01.071 (pdf).

Baldoncini, M., M. Albéri, C. Bottardi, E. Chiarelli, K. G. C. Raptis, V. Strati, and F. Mantovani. *Biomass water content effect on soil moisture assessment via proximal gamma-ray spectroscopy*. Geoderma, 335, 69-77 (2019). DOI 10.1016/j.geoderma.2018.08.012 (pdf).

2018

Baldoncini, M., M. Albéri, C. Bottardi, E. Chiarelli, K. G. C. Raptis, V. Strati, and F. Mantovani. *Investigating the potentialities of Monte Carlo simulation for assessing soil water content via proximal gamma-ray spectroscopy*. Journal of Environmental Radioactivity, 192, 105-116 (2018). DOI 10.1016/j.jenvrad.2018.06.001 (pdf).

Strati, V., Albéri M., Anconelli S., Baldoncini M., Bittelli M., Bottardi C., Chiarelli E., Fabbri B., Guidi V., Raptis K.G.C., Solimando D., Tomei F., Villani G. and Mantovani F. *Modelling Soil Water Content in a Tomato Field: Proximal Gamma Ray Spectroscopy and Soil–Crop System Models*. Agriculture, 8(4), 60 (2018). DOI 10.3390/agriculture8040060 (pdf).

Grassi, M., M. Montuschi, M. Baldoncini, F. Mantovani, B. Ricci, G. Andronico, V. Antonelli, M. Bellato, E. Bernieri, A. Brigatti, R. Brugnera, A. Budano, M. Buscemi, S. Bussino, R. Caruso, D. Chiesa, D. Corti, F. D. Corso, X. F. Ding, S. Dusini, A. Fabbri, G. Fiorentini, R. Ford, A. Formozov, G. Galet, A. Garfagnini, M. Giammarchi, A. Giaz, A. Insolia, R. Isocrate, I. Lippi, F. Longhitano, D. L. Presti, P. Lombardi, F. Marini, S. M. Mari, C. Martellini, E. Meroni, M. Mezzetto, L. Miramonti, S. Monforte, M. Nastasi, F. Ortica, A. Paoloni, S. Parmeggiano, D. Pedretti, N. Pelliccia, R. Pompilio, E. Previtali, G. Ranucci, A. C. Re, A. Romani, P. Saggese, G. Salamanna, F. H. Sawy, G. Settanta, M. Sisti, C. Sirignano, M. Spinetti, L. Stanco, V. Strati, G. Verde and L. Votano *Charge reconstruction in large-area photomultipliers.* Journal of Instrumentation, 13, P02008-P02008 (2018). DOI 10.1088/1748-0221/13/02/P02008 (pdf).

Baldoncini, M., M. Albéri, C. Bottardi, B. Minty, K. G. Raptis, V. Strati and F. Mantovani. *Airborne gamma-ray spectroscopy for modeling cosmic radiation and effective dose in the lower atmosphere.* IEEE Transactions on Geoscience and Remote Sensing, 56, 823-834 (2018). DOI 10.1109/TGRS.2017.2755466 (pdf).

2017

Strati V., Wipperfurth S.A., Baldoncini M., McDonough W.F., Mantovani F. *Perceiving the crust in 3D: a model integrating geological, geochemical, and geophysical data*. Geochemistry, Geophysics, Geosystems, 18, 4326-4341 (2017). DOI 10.1002/2017GC007067 (pdf).

Baldoncini M., Albéri M., Bottardi C., Raptis K.G.C., Minty B., Strati V. and F. Mantovani. *Exploring atmospheric radon with airborne gamma-ray spectroscopy*. Atmospheric Environment, 170, 259-268 (2017). DOI 10.1016/j.atmosenv.2017.09.048 (pdf).

Albéri M., Baldoncini M., Bottardi C., Chiarelli E., Fiorentini G., Raptis K.G.C., Realini E., Reguzzoni M., Rossi L., Sampietro D., Strati V., Mantovani F. *Accuracy of flight altitude measured with cheap GNSS, radar and barometer sensors: implications on airborne radiometric surveys.* Sensors, 17(8), 1889 (2017). DOI 10.3390/s17081889 (pdf).

Xhixha G., J.A. Trinidad, C. Gasco, F. Mantovani. *First intercomparison among laboratories involved in COST Action-TU1301 "NORM4Building": Determination of natural radionuclides in ceramics*. Journal of Environmental Radioactivity 168 4-9 (2017). DOI 10.1016/j.jenvrad.2016.03.007 (pdf).

2016

An, F., et al. [JUNO Collaboration]. *Neutrino physics with JUNO*. Journal of Physics G: Nuclear and Particle Physics, 43, 030401, (2016). DOI 10.1088/0954-3899/43/3/030401 (pdf).

Xhixha, G., M. Alberi, M. Baldoncini, K. Bode, E. Bylyku, F. Cfarku, I. Callegari, F. Hasani, S. Landsberger, F. Mantovani, E. Rodriguez, F. Shala, V. Strati and M. X. Kaçeli. *Calibration of HPGe detectors using certified reference materials of natural origin.* Journal of Radioanalytical and Nuclear Chemistry, 307, 1507-1517, (2016). DOI 10.1007/s10967-015-4360-6 (pdf).

Xhixha, M. K., M. Albèri, M. Baldoncini, G. P. Bezzon, G. P. Buso, I. Callegari, L. Casini, S. Cuccuru, G. Fiorentini, E. Guastaldi, F. Mantovani, L. Mou, G. Oggiano, A. Puccini, C. R. Alvarez, V. Strati, G. Xhixha and A. Zanon. *Uranium distribution in the Variscan Basement of Northeastern Sardinia.* Journal of Maps, 12, 1029-1036, (2016). DOI 10.1080/17445647.2015.1115784 (pdf).

2015

Miramonti, L., et al. [Borexino Collaboration]. *Geo-neutrinos from 1353 Days with the Borexino Detector*. Physics Procedia, 61, 340-344 (2015). DOI 10.1016/j.phpro.2014.12.073 (pdf).

Agostini M., et al. [Borexino Collaboration]. *Spectroscopy of geoneutrinos from 2056 days of Borexino data.* Physical Review D, 92 031101(R), (2015). DOI10.1103/PhysRevD.92.031101 (pdf).

Ludhova, L., et al. [Borexino Collaboration]. *Geo-neutrinos and Borexino.* Physics of Particles and Nuclei 46, 174-181, (2015). DOI 10.1134/S1063779615020148 (pdf).

Smirnov, O., et al. [Borexino Collaboration]. *Solar neutrino with Borexino: Results and perspectives.* Physics of Particles and Nuclei 46, 166-173, (2015). DOI10.1134/S1063779615020185 (pdf).

Xhixha, G., Baldoncini, M., Callegari, I., Colonna, T., Hasani, F., Mantovani, F., Shala, F., Strati, V., and Xhixha Kaceli, M. *A century of oil and gas exploration in Albania: Assessment of Naturally Occurring Radioactive Materials (NORMs).* Chemosphere, 139, 30-39, (2015). DOI 10.1016/j.chemosphere.2015.05.018 (pdf).

Strati, V., Baldoncini, M., Callegari, I., Mantovani, F., McDonough, W., Ricci, B., and Xhixha, G. *Expected geoneutrino signal at JUNO.* Progress in Earth and Planetary Science, 2, 1-7, (2015). DOI 10.1186/s40645-015-0037-6 (pdf).

Baldoncini M., Callegari I., Fiorentini G., Mantovani F., Ricci B., Strati V. and Xhixha G. *Reference worldwide model for antineutrinos from reactors*. Physical Review D, 91, 065002, (2015). DOI 10.1103/PhysRevD.91.065002 (pdf).

2014

Strati, V., Baldoncini, M., Bezzon, G. P., Broggini, C., Buso, G. P., Caciolli, A., Callegari, I., Carmignani, L., Colonna, T., Fiorentini, G., Guastaldi, E., Kaçeli Xhixha, M., Mantovani, F., Menegazzo, R., Mou, L., Rossi Alvarez, C., Xhixha, G., and Zanon, A. *Total natural radioactivity*, Veneto (Italy). Journal of Maps, 1-7, (2014). DOI http://dx.DOI.org/10.1080/17445647.2014.923348 (pdf).

Huang Y., Strati V., Mantovani F., Shirey S. B. and McDonough W. F. *Regional study of the Archean to Proterozoic crust at the Sudbury Neutrino Observatory (SNO+), Ontario: Predicting the geoneutrino flux.* Geochemistry, Geophysics, Geosystems, 15, 3925-3944. ISSN: 1525-2027, (2014). DOI 10.1002/2014GC005397 (pdf).

Cfarku, F., Xhixha, G., Bylyku, E., Zdruli, P., Mantovani, F., Përpunja, F., Callegari, I., Guastaldi, E., Xhixha Kaçeli, M., and Thoma, H. *A preliminary study of gross alpha/beta activity concentrations in drinking waters from Albania*. Journal of Radioanalytical and Nuclear Chemistry 301, 435-442, (2014). DOI http://dx.DOI.org/10.1007/s10967-014-3142-x (pdf).

Miramonti L., et al. [Borexino Collaboration]. *Lifetime measurements of 214Po and 212Po with the CTF liquid scintillator detector at LNGS.* Journal of Environmental Radioactivity (Special Issue) - 2nd International Conference on Po and Radioactive Pb Isotopes (INCO-PoPb 2013) Mangalore, India, (2014). DOI 10.1016/j.jenvrad.2014.02.025 (pdf).

Puccini, A., Xhixha, G., Cuccuru, S., Oggiano, G., Xhixha, M. K., Mantovani, F., Alvarez, C. R., and Casini, L. *Radiological characterization of granitoid outcrops and dimension stones of the Variscan Corsica-Sardinia Batholith.* Environmental Earth Sciences 71, 393-405, (2014). DOI http://dx.DOI.org/10.1007/s12665-013-2442-8 (pdf).

2013

Bellini, G., Ianni, A., Ludhova, L., Mantovani, F., and McDonough, W. F. *Geo-neutrinos*. Progress in Particle and Nuclear Physics, 73, 1-34. ISSN: 0146-6410, (2013). DOI 10.1016/j.ppnp.2013.07.001 (pdf).

Bellini G, et al. [Borexino Collaboration]. *Lifetime measurements of 214Po and 212Po with the CTF liquid scintillator detector at LNGS.* The European Physical Journal A, 49, 92. ISSN: 1434-6001, (2013). DOI10.1140/epja/i2013-13092-9 (pdf).

Guastaldi E., M. Baldoncini, G. Bezzon, C. Broggini, G. Buso, A. Caciolli, L. Carmignani, I. Callegari, T. Colonna, K. Dule, G. Fiorentini, M. Kaçeli Xhixha, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, V. Strati, G. Xhixha, A. Zanon, *A multivariate spatial interpolation of airborne γ-ray data using the geological constraints*. Remote Sensing of Environment, 137, 1-11. ISSN: 0034-4257, (2013). DOI 10.1016/j.rse.2013.05.027 (pdf).

Callegari I., G.P. Bezzon, C. Broggini, G.P. Buso, A. Caciolli, L. Carmignani, T. Colonna, G. Fiorentini, E. Guastaldi, M.K. Xhixha, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, A. Pirro, C.R. Alvarez, V. Strati, G. Xhixha, A. Zanon. *Total natural radioactivity, Tuscany, Italy*. Journal of Maps, 1-6, (2013). DOI 10.1080/17445647.2013.802999 (pdf).

Xhixha G., A. Ahmeti, G.P. Bezzon, M. Bitri, C. Broggini, G.P. Buso, A. Caciolli, I. Callegari, F. Cfarku, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, D. Prifti, C.R. Alvarez, D.S. Kuqi, M. Shyti, L. Tushe, M. Xhixha Kaçeli, A. Zyfi, *First characterisation of natural radioactivity in building materials manufactured in Albania*. Radiation Protection Dosimetry, 155, 217-223. ISSN 0144-8420, (2013). DOI 10.1093/rpd/ncs334 (pdf).

Xhixha G., G.P. Bezzon, C. Broggini, G.P. Buso, A. Caciolli, I. Callegari, S. Bianchi, G. Fiorentini, E. Guastaldi, M. Kaçeli Xhixha, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, A. Pasquini, C.R. Alvarez, M. Shyti. *The worldwide NORM production and a fully automated gamma-ray spectrometer for their characterization.* Journal of Radioanalytical and Nuclear Chemistry , 295, 445-457. ISSN: 0236-5731, (2013). DOI 10.1007/s10967-012-1791-1 (pdf).

Huang Y., V. Chubakov, F. Mantovani, R.L. Rudnick, W.F. McDonough, *A reference Earth model for the heat-producing elements and associated geoneutrino flux.* Geochemistry, Geophysics, Geosystems, 14, 2003-2029. ISSN: 1525-2027, (2013). DOI 10.1002/ggge.20129 (pdf).

Bellini G., et al. [Borexino Collaboration]. *Measurement of geo-neutrinos from 1353 days of Borexino*. Physics Letters B, 722, 295-300, (2013). DOI 10.1016/j.physletb.2013.04.030 (pdf).

2012

Caciolli A., M. Baldoncini, G.P. Bezzon, C. Broggini, G.P. Buso, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C.R. Alvarez, M. Shyti, A. Zanon, G. Xhixha, *A new FSA approach for in situ γ ray spectroscopy*. Science of The Total Environment, 414, 639-645. ISSN: 0048-9697, (2012). DOI 10.1016/j.scitotenv.2011.10.071 (pdf).

Fiorentini G., G.L. Fogli, E. Lisi, F. Mantovani, A.M. Rotunno, *Mantle geoneutrinos in KamLAND and Borexino*. Physical Review D, 86 033004. ISSN 1550-7998, (2012). DOI 10.1103/PhysRevD.86.033004 (pdf).

Wurm M., J. F. Beacom, L. B. Bezrukov, D. Bick, J. Blümer, S. Choubey, C. Ciemniak, D. D'Angelo, B. Dasgupta, A. Dighe, G. Domogatsky, S. Dye, S. Eliseev, T. Enqvist, A. Erykalov, F. von Feilitzsch, G. Fiorentini, T. Fischer, M. Göger-Neff, P. GrabMayr, C. Hagner, D. Hellgartner, J.Hissa, S. Horiuchi, H. T. Janka, C. Jaupart, J. Jochum, T. Kalliokoski, P. Kuusiniemi, T. Lachenmaier, I. Lazanu, J. G. Learned, T. Lewke, P. Lombardi, S. Lorenz, B. Lubsandorzhiev, L. Ludhova, K. Loo, J. Maalampi, F. Mantovani, M. Marafini, J. Maricic, T. M. Undagoitia, W. F. McDonough, L. Miramonti, A. Mirizzi, Q. Meindl, O. Mena, R. Möllenberg, R. Nahnhauer, D. Nesterenko, Y. N. Novikov, G. Nuijten, L. Oberauer, S. Pakvasa, S. Palomares-Ruiz, M. Pallavicini, S. Pascoli, T. Patzak, J. Peltoniemi, W. Potzel, T. Räihä, G. G. Raffelt, G. Ranucci, S. Razzaque, K. Rummukainen, J. Sarkamo, V. Sinev, C. Spiering, A. Stahl, F. Thorne, M. Tippmann, A. Tonazzo, W. H. Trzaska, J. D. Vergados, C. Wiebusch, J. Winter, *The next-generation liquid-scintillator neutrino observatory LENA*, Astroparticle Physics, vol. 35, Issue 1, pp. 685-732, ISSN 0927-6505, (2012). DOI 10.1016/j.astropartphys.2012.02.011 (pdf).

2011

Coltorti M., R. Boraso, F. Mantovani, M. Morsilli, G. Fiorentini, A. Riva, G. Rusciadelli, R. Tassinari, C. Tomei, G. Di Carlo, V. Chubakov. *U and Th content in the Central Apennines continental crust: a contribution to the determination of the geo-neutrinos flux at LNGS*. Geochimica et Cosmochimica Acta, vol. 75, n. 9, 2271-2294. ISSN: 0016-7037, (2011). DOI 10.1016/j.gca.2011.01.024 (pdf).

2010

Fiorentini G., A. Ianni, G. Korga, M. Lissia, F. Mantovani, L. Miramonti, L. Oberauer, M. Obolensky, O. Smirnov, Y. Suvorov. *Nuclear physics for geo-neutrino studies.* Physical Review C 81, ISSN 1089-490X, (2010). DOI 10.1103/PhysRevC.81.034602 (pdf).

2007

Fiorentini G., M. Lissia, F. Mantovani. *Geo-neutrinos and earth's interior.* Physics Reports 453, 117-172, ISSN 0370-1573, (2007). DOI 10.1016/j.physrep.2007.09.001 (pdf).

2006

Fiorentini G., M. Lissia, F. Mantovani, B. Ricci. *Geo-Neutrinos: from theory to the KamLAND results.* Earth, Moon and Planets 99, 91-110, ISSN 1573-0794, (2006). DOI 10.1007/s11038-006-9115-5 (pdf).

De Meijer R. J., F.D. Smit, F.D. Brooks, R.W. Fearick, H.J. Woertche, F. Mantovani. *Towards Earth AntineutRino TomograpHy (EARTH).* Earth, Moon and Planets 99, 193-206, ISSN 1573-0794, (2006). DOI 10.1007/s11038-006-9104-8 (pdf).

2005

Fiorentini G., M. Lissia, F. Mantovani, R. Vannucci. *Geo-neutrinos: a short review.* Nuclear Physics B (Proc. Suppl.) 143, 53-59, ISSN 0920-5632, (2005). DOI 10.1016/j.nuclphysbps.2005.01.087 (pdf).

Fiorentini G., M. Lissia, F. Mantovani, B. Ricci. *KamLAND results and the radiogenic terrestrial heat.* Physics Letters B 629, 77, ISSN 0370-2693, (2005). DOI 10.1016/j.physletb.2005.09.067 (pdf).

Fiorentini G., M. Lissia, F. Mantovani, R. Vannucci. *How much Uranium is in the Earth? Predictions for geo-neutrinos at KamLAND.* Physical Review D 72, 033017, ISSN 1550-2368, (2005). DOI 10.1103/PhysRevD.72.033017 (pdf).

Fiorentini G., M. Lissia, F. Mantovani, R. Vannucci. *Geo-neutrinos: a new probe of Earth's interior.* Earth and Planetary Science Letters 238, 235, ISSN 0012-821X, (2005). DOI 10.1016/j.epsl.2005.06.061 (pdf).

Fiorentini G., M. Lissia, F. Mantovani, R. Vannucci. *A brief review on geo-neutrinos.* Nuclear Physics B (Proc. Suppl.), 145, 170, ISSN 0920-5632, (2005). DOI 10.1016/j.nuclphysbps.2005.03.019 (pdf).

2004

Mantovani F., L. Carmignani, G. Fiorentini, M. Lissia. *Antineutrinos from the earth: the reference model and its uncertainties.* Physical Review D 69, 013001, ISSN 1550-2368, (2004). DOI 10.1103/PhysRevD.69.013001 (pdf).

2003

Fiorentini, G., F. Mantovani, and B. Ricci. *Neutrinos and Energetics of the Earth*. Physics Letters B 557, 139, ISSN 0370-2693, (2003). DOI 10.1016/S0370-2693(03)00193-X (pdf).

CONFERENCE PROCEEDINGS AND NOT PEER-REVIEWED PAPERS

Serafini A., Bellini G., Inoue K., Mantovani F., Strati V., Watanabe H. *Investigating Earth's mantle with antineutrinos.* Neutrino 2022 – Seoul, XXX International Conference on Neutrino Physics and Astrophysics – May 30 - June 4, 2022 (pdf)

Albéri M., Cabras D., Chiarelli E., Cicala L., Colonna T., Corbo M., De Cesare M., Ferraro A., Givoletti J., Guastaldi E., Maino A., Mantovani F., Morichi M., Montuschi M., Raptis K.G.C., Semenza F., Strati V., and Vivaldi F. *RadHawk: a smart UAV for hunting radioactivity.* EGU22-11835. EGU General Assembly 2022 (pdf)

Montuschi M., Alberi M., Attala D., Chiarelli E., Maino A., Raptis K.G.C., Sandroni S., Sassi S., Semenza F., Strati V., and Mantovani F. *A Web GIS tool for 3D visualization of bathymetric data*. EGU22-11828. EGU General Assembly 2022 (pdf)

Strati V., Bellini G., Inoue K., Mantovani F., Serafini A., and Watanabe H. *Studying the Earth's heat budget with geoneutrinos.* EGU22-490. EGU General Assembly 2022 (pdf)

Maino A., Albéri M., Anceschi E., Chiarelli E., Cicala L., Colonna T., De Cesare M., Guastaldi E., Lopane N., Mantovani F., Martini N., Montuschi M., Piccioli S., Raptis K.G.C., Russo A., Semenza F., and Strati V. *Mapping soil texture with airborne gamma ray spectroscopy.* EGU22-361. EGU General Assembly 2022 (pdf)

Kumaran S. (on behalf of the Borexino Collaboration). *Spectroscopy of geoneutrinos with Borexino.* Journal of Physics: Conference Series 2156, 012140. 17th International Conference on Topics in Astroparticle and Underground Physics (TAUP2021) (pdf)

Serafini A., Albéri M., Bisogno S., Chiarelli E., Cicala L., De Cesare M., Maino M., Montuschi M., Motti A., Natali N., Ogna M., Raptis K.G.R., Simone G., Strati V., Mantovani M. *Mapping the outdoor effective dose: the case study of the Umbria region (Italy).* EGU2022-7284.EGU General Assembly 2021 (pdf)

Ludhova L. et al. [Borexino Collaboration]. *Updated geoneutrino measurement with Borexino.* Journal of Physics: Conference Series 1468, 012211. 16th International Conference on Topics in Astroparticle and Underground Physics (TAUP2019) (pdf)

Serafini A., Navas D. N., Cabrera A., Mantovani F., Chen M., Strati V. (on behalf of the LiquidO Collaboration). *Neutrino physics with LiquidO at the MeV-scale.* XXIX International Conference on Neutrino Physics and Astrophysics. Neutrino 2020 (pdf)

Serafini A., Albéri M., Carconi P., Chiarelli E., De Felice P., Deserventi A., Donati M., Fanchini E., Giordano F., Grignani P., Iovene A., Luciani L., Manessi G., Mantovani F., Marini M., Morichi M., Pepperosa A., Raptis K. G. C., Rogo F., Strati V. and the CORSAIR. *Making radioactivity measurements on building materials accessible to everyone.* Geophysical Research Abstracts Vol. 22, EGU2020-1149. EGU General Assembly (2020) (pdf)

Albéri M., Bottardi C., Chiarelli E., Raptis K. G. C., Serafini A., Strati V. and Mantovani F. *GammaEDU: an innovative tool for sensitizing society to natural radioactivity.* Geophysical Research Abstracts Vol. 22, EGU2020-16228. EGU General Assembly (2020) (pdf)

Strati V., Albéri M., Bottardi C., Chiarelli E., Montuschi M., Raptis K. G. C., Serafini A. and Mantovani F. *Monitoring rain rate with proximal gamma-ray spectroscopy.* Geophysical Research Abstracts Vol. 22, EGU2020-15888. EGU General Assembly (2020) (pdf)

Mantovani F., Albéri M., Bottardi C., Chiarelli E., Raptis K. G. C., Serafini A., Strati V. Discriminating biomass and soil water content with proximal gamma-ray spectroscopy. Geophysical Research Abstracts Vol. 22, EGU2020-22370. EGU General Assembly (2020) (pdf)

Serafini, A., Albéri, M., Chiarelli, E., Montuschi, M., Raptis, K. G. C., Strati, V., & Mantovani, F. *Discriminating irrigation and rainfall with proximal gamma-ray spectroscopy*. In 2020 IEEE International Workshop on Metrology for Agriculture and Forestry (MetroAgriFor) (pp. 191-195). IEEE (2020) (pdf)

Kumaran S. (on behalf of the Borexino Collaboration). *Analysis strategies for the updated geoneutrino measurement with Borexino*. Journal of Physics: Conference Series 1468, 012184. 16th International Conference on Topics in Astroparticle and Underground Physics (TAUP2019) (pdf)

Serafini A., Navas D. N., Cabrera A., Mantovani F., Chen M., Strati V. (on behalf of the LiquidO Collaboration). *Neutrino physics with LiquidO at the MeV-scale*. XXIX International Conference on Neutrino Physics and Astrophysics. Neutrino 2020 (pdf)

Serafini A., Albéri M., Carconi P., Chiarelli E., De Felice P., Deserventi A., Donati M., Fanchini E., Giordano F., Grignani P., Iovene A., Luciani L., Manessi G., Mantovani F., Marini M., Morichi M., Pepperosa A., Raptis K. G. C., Rogo F., Strati V. and the CORSAIR. *Making radioactivity measurements on building materials accessible to everyone.* Geophysical Research Abstracts Vol. 22, EGU2020-1149. EGU General Assembly (2020) (pdf)

Albéri M., Bottardi C., Chiarelli E., Raptis K. G. C., Serafini A., Strati V. and Mantovani F. *GammaEDU: an innovative tool for sensitizing society to natural radioactivity.* Geophysical Research Abstracts Vol. 22, EGU2020-16228. EGU General Assembly (2020) (pdf)

Strati V., Albéri M., Bottardi C., Chiarelli E., Montuschi M., Raptis K. G. C., Serafini A. and Mantovani F. *Monitoring rain rate with proximal gamma-ray spectroscopy.* Geophysical Research Abstracts Vol. 22, EGU2020-15888. EGU General Assembly (2020) (pdf)

Mantovani F., Albéri M., Bottardi C., Chiarelli E., Raptis K. G. C., Serafini A., Strati V. *Discriminating biomass and soil water content with proximal gamma-ray spectroscopy*. Geophysical Research Abstracts Vol. 22, EGU2020-22370. EGU General Assembly (2020) (pdf)

Strati, V., S. A. Wipperfurth, M. Baldoncini, W. F. McDonough, S. Gizzi and F. Mantovani (2020). *Geoneutrinos from the rock overburden at SNO+*. Journal of Physics: Conference Series 134, 012020. DOI: 10.1088/1742-6596/1342/1/012020 (pdf)

Strati V., M. Alberi, Bottardi C., Chiarelli E., F. Mantovani, Raptis K. G. C., Serafini A., *Nuclear Physics for precision agriculture*. 1st International Conference on Applied Physics, 20-22 November 2019, Tirana, Albania. ISBN 978-9928-4578-1-3 (2019) (pdf)

Mantovani F. (on behalf of the Borexino Collaboration). *Geoneutrino measurements with Borexino: implications for geoscience*. Neutrino Geoscience 2019 Prague - Book of Abstracts, 5-6. Neutrino Geoscience 2019 Prague (2019) (pdf)

Reguzzoni M., Rossi L., Baldoncini M., Callegari I., Poli P., Sampietro D., Strati V., Mantovani F., Italian JUNO Collaboration. *GIGJ: a crustal gravity model of the Guangdong Province for predicting the geoneutrino signal at the JUNO experiment*. Neutrino Geoscience 2019 Prague - Book of Abstracts, 7-8. Neutrino Geoscience 2019 Prague (2019) (pdf)

Serafini A. (on behalf of the LiquidO collaboration). *Detecting ^{40}K geoneutrinos with LiquidO*. Neutrino Geoscience 2019 Prague - Book of Abstracts, 10. Neutrino Geoscience 2019 Prague (2019) (pdf)

Strati V., Wipperfurth S. A., Baldoncini M., McDonough W., Gizzi S., Mantovani F. *Effect of the overburden on the geoneutrino signal at SNO+*. Neutrino Geoscience 2019 Prague - Book of Abstracts, 11. Neutrino Geoscience 2019 Prague (2019) (pdf)

Mantovani F. *L'uranio che scalda la Terra.* Asimmetrie, 26, 24-27 (2019). DOI: 10.23801/asimmetrie.2019.26.6 (pdf)

Albèri M., Baldoncini M., Bottardi C., Chiarelli E., Raptis K. G. C., Serafini A., Strati V., Mantovani F. *The natural radioactivity map of Umbria (Italy): a multipurpose tool for environmental understanding.* Geophysical Research Abstracts Vol. 21, EGU2019-14133. EGU General Assembly (2019) (pdf)

Bottardi C., Albèri M., Baldoncini M., Chiarelli E., Raptis K. G. C., Serafini A., Strati V., Mantovani F. *Radon daughters rain-induced activity.* Geophysical Research Abstracts Vol. 21, EGU2019-14901. EGU General Assembly (2019) (pdf)

Baldoncini M., Albèri M., Bottardi C., Chiarelli E., Raptis K. G. C., Serafini A., Strati V., Mantovani F. *Filling the gap between punctual and satellite soil moisture measurements through proximal gamma-ray spectroscopy.* Geophysical Research Abstracts Vol. 21, EGU2019-1623. EGU General Assembly (2019) (pdf)

Strati V., Albèri M., Baldoncini M., Bottardi C., Chiarelli E., Raptis K. G. C., Serafini A., Mantovani F. *Challenges, solutions and benefits of natural radioactivity mapping.* Geophysical Research Abstracts Vol. 21, EGU2019-12902. EGU General Assembly (2019) (pdf)

Albéri M., M. Baldoncini, F. Mantovani, V. Strati. *A fully automated gamma-ray spectrometer for NORMs characterization.* VI. Terrestrial Radioisotopes in Environment. International Conference on Environmental Protection. Veszprém 22-25 May 2018. ISBN 978-615-00-2168-3. DOI 10.18428/TREICEP-2018 (pdf)

Strati V., M. Alberi, M. Baldoncini, F. Mantovani. *Natural radioactivity mapping via gamma-ray spectroscopy: integrating different techniques and multivariate information.* VI. Terrestrial Radioisotopes in Environment. International Conference on Environmental Protection. Veszprém 22-25 May 2018. ISBN 978-615-00-2168-3. DOI 10.18428/TREICEP-2018 (pdf)

Baldoncini M., M. Albéri, K. Raptis, C. Bottardi, V. Strati, F. Mantovani, B. Minty: *Airborne gamma-ray spectrometry for investigating radon vertical profile.* VI. Terrestrial Radioisotopes in Environment. International Conference on Environmental Protection. Veszprém 22-25 May 2018. ISBN 978-615-00-2168-3. DOI 10.18428/TREICEP-2018 (pdf)

Rossi L., M. Reguzzoni, M. Baldoncini, I. Callegari, P. Poli, D. Sampietro, V. Strati, F. Mantovani. *GIGJ: a crustal model of the Guangdong Province using GOCE gravity data for predicting geoneutrinos.* Geophysical Research Abstracts Vol. 20, EGU2018-17781. EGU General Assembly (2018) (pdf)

Wipperfurth S. A., O. Šrámek, B. Roskovec, F. Mantovani, W. F. McDonough. *Updated reference model for lithospheric heat production and geoneutrino flux.* Geophysical Research Abstracts Vol. 20, EGU2018-11717 (2018) . EGU General Assembly (pdf)

Baldoncini M., M. Albéri, C. Bottardi, B. Minty, K. Raptis, V. Strati, F. Mantovani. *Atmospheric Radon in a marine environment: a novel approach based on airborne gamma-ray spectroscopy.* Geophysical Research Abstracts Vol. 20, EGU2018-17545. EGU General Assembly (2018) (pdf)

Baldoncini M., M. Albéri, C. Bottardi, B. Minty, K. Raptis, V. Strati, F. Mantovani. *Cosmic radiation in the lower atmosphere with airborne gamma-ray spectroscopy.* Geophysical Research Abstracts Vol. 20, EGU2018-17500. EGU General Assembly (2018) (pdf)

Strati V, S. A. Wipperfurth, M. Baldoncini, W. F. McDonough, F. Mantovani. *Integrating geological, geochemical and geophysical data and uncertainties into a coherent 3D model.* Geophysical Research Abstracts Vol. 20, EGU2018-6315 (2018) (pdf)

Baldoncini, M., V. Strati, S. A. Wipperfurth, G. Fiorentini, F. Mantovani, W. F. McDonough, and B. Ricci. *Geoneutrinos and Reactor Antineutrinos at SNO+*. Journal of Physics: Conference Series 718, no. 6, 062003, (2016). DOI10.1088/1742-6596/718/6/062003. (pdf)

Albéri M., Baldoncini M., Callegari I., Mantovani F., Raptis K. G. C., Realini E., Reguzzoni M., Rossi L., Sampietro D., Strati V. *Studio della quota di volo mediante GNSS, altimetro radar e barometro per rilievi di spettroscopia gamma da velivolo.* Atti 20ª Conferenza Nazionale A.S.I.T.A., Cagliari, 8-10 November 2016, ISBN 978-88-941232-6-5; pp: 661-669. (2016). (pdf)

A. Ianni, M. Agostini, K. Altenmüller, S. Appel, G. Bellini, J. Benziger, D. Bick, G. Bonfini, D. Bravo, B. Caccianiga, F. Calaprice, A. Caminata, P. Cavalcante, A. Chepurnov, D. D'Angelo, S. Davini, A. Derbin, L. Di Noto, I. Drachnev, A. Etenko, G. Fiorentini, K. Fomenko, D. Franco, F. Gabriele, C. Galbiati, C. Ghiano, M. GiamMarchi, M. Göger-Neff, A. Goretti, M. Gromov, C. Hagner, E. Hungerford, A. Ianni, K. Jedrzejczak, M. Kaiser, V. Kobychev, D. Korablev, G. Korga, D. Kryn, M. Laubenstein, B. Lehnert, E. Litvinovich, F. Lombardi, P. Lombardi, L. Ludhova, G. Lukyanchenko, I. Machulin, S. Manecki, W. Maneschg, F. Mantovani, S. Marcocci, E. Meroni, M. Meyer, L. Miramonti, M. Misiaszek, M. Montuschi, P. Mosteiro, V. Muratova, B. Neumair, L. Oberauer, M. Obolensky, F. Ortica, M. Pallavicini, L. Papp, L. Perasso, A. Pocar, G. Ranucci, A. Razeto, A. Re, B. Ricci, A. Romani, R. Roncin, N. Rossi, S. Schönert, D. Semenov, H. Simgen, M. Skorokhvatov, O. Smirnov, A. Sotnikov, S. Sukhotin, Y. Suvorov, R. Tartaglia, G. Testera, J. Thurn, M. Toropova, E. Unzhakov, A. Vishneva, R.B. Vogelaar, F. von Feilitzsch, H. Wang, S. Weinz, J. Winter, M. Wojcik, M. Wurm, Z. Yokley, O. Zaimidoroga, S. Zavatarelli, K. Zuber, G. Zuzel, *High significance measurement of the terrestrial neutrino flux with the Borexino detector*, Journal of Physics: Conference Series, 718, 062025, (2016). DOI 10.1088/1742-6596/718/6/062025. (pdf)

Lasserre Th., K. Altenmueller, M. Agostini, S. Appel, G. Bellini, J. Benziger, N. Berton, D. Bick, G. Bonfini, D. Bravo, B. Caccianiga, F. Calaprice, A. Caminata, P. Cavalcante, A. Chepurnov, K. Choi, M. Cribier, D. D'Angelo, S. Davini, A. Derbin, L. Di Noto, I. Drachnev, M. Durero, A. Empl, A. Etenko, V. Fischer, G. Fiorentini, K. Fomenko, D. Franco, F. Gabriele, J. Gaffiot, C. Galbiati, C. Ghiano, M. Giammarchi, M. Goeger-Neff, A. Goretti, M. Gromov, C. Hagner, Th. Houdy, E. Hungerford, A. Ianni, A. Ianni, K. Jedrzejczak, N., Jonqueres, M. Kaiser, V. Kobychev, D. Korablev, G. Korga, V. Kornoukhov, D. Kryn, M. Laubenstein, B. Lehnert, J. Link, E. Litvinovich, F. Lombardi, P. Lombardi, L. Ludhova, G. Lukyanchenko, I. Machulin, S. Manecki, W. Maneschg, F. Mantovani, S. Marcocci, E. Meronic, M. Meyer, L. Miramonti, M.

Misiaszek, M. Montuschi, P. Mosteiro, V. Muratova, B. Neumair, L. Oberauer, M. Obolensky, F. Ortica, K. Otis, L. Pagani, M. Pallavicini, L. Papp, L. Perasso, A. Pocar, G. Ranucci, A. Razeto, B. Ricci, R. Roncin, N. Rossi, S. Schönert, D. Semenov, H. Simgen, M. Skorokhvatov, O. Smirnov, A. Sotnikov, S. Sukhotin, Y. Suvorov, R. Tartaglia, G. Testera, J. Thurn, M. Toropova, E. Unzhakov, C. Veyssiere, M. Vivier, R.B. Vogelaar, F. von Feilitzsch, H. Wang, S. Weinz, J. Winter, M. Wojcik, M. Wurm, Z. Yokley, O. Zaimidoroga, S. Zavatarelli, K. Zuber, and G. Zuzel. Radioactive Source Experiments in Borexino. XVI International Workshop on "Neutrino Telescopes", Venice, ISBN 978-88-97645-01-6, (2011). (pdf)

E. Tufarolo, M. Baldoncini, G. Bezzon, F. N. A. Brogna, G. Buso, I. Callegari, L. Carmignani, T. Colonna, G. Fiorentini, E. Guastaldi, M. K. Xhixha, F. Mantovani, L. Mou, C. Pagotto, E. Realini, M. Reguzzoni, C. A. Rossi, R. Salvini, D. Sampietro, V. Strati, G. Xhixha, A. Zanon. *Il Radgyro: un autogiro dedicato ad acquisizioni airborne multiparametriche.* Atti 18ª Conferenza Nazionale A.S.I.T.A., Firenze, 14-16 November 2014, ISBN:978-88-903132-9-5; pp: 1159-1165. (2014). (pdf)

M. Xhixha, M. Baldoncini, G.P. Bezzon, G.P. Buso, L. Carmignani, L. Casini, I. Callegari, T. Colonna, S. Cuccuru, E. Guastaldi, G. Fiorentini, F. Mantovani, G. Massa, L. Mou, G. Oggiano, A. Puccini, C. Rossi Alvarez, V. Strati, G. Xhixha, A. Zanon. *A Detailed Gamma-ray Survey for Estimating the Radiogenic Power of Sardinian Variscan Crust*. 27th Conference of the Nuclear Societies in Israel; Dead Sea (Israel); 11-13 Feb 2014; INIS Issue 50. Vol. 45 (2014). (pdf)

V. Strati, M. Baldoncini, G.P. Bezzon, C. Broggini, G. P. Buso, A. Caciolli, I. Callegari, L. Carmignani, T. Colonna, G. Fiorentini, E. Guastaldi, M. Kaçeli Xhixha, F. Mantovani, R. Menegazzo, L. Mou, C. Rossi Alvarez, G. Xhixha, A. Zanon. *Total natural radioactivity map of Veneto (Italy)*. INFN-LNL Rep. 240, 145-146. ISSN: 1828-8561 (2014). (pdf)

P. Garosi, M. Baldoncini, A. Iovene, F. Mantovani, L. Mou, S. Petrucci, C. Rossi Alvarez, V. Strati, C. Tintori, G. Xhixha. *A segmented detector for airborne gamma-ray spectroscopy*. Symposium on Radiation Measurements and Applications (SORMA XV), Michigan, USA. (2014). (pdf)

G. Xhixha, M. Baldoncini, G.P. Bezzon, G.P. Buso, L. Carmignani, I. Callegari, T. Colonna, E. Guastaldi, G. Fiorentini, F. Mantovani, L. Mou, C. Robustini, C. Rossi Alvarez, V. Strati, M. Kaçeli Xhixha, A. Zanon. *Performances of a lightweight collimated γ-ray spectrometer for in-situ surveys.* EU-NORM 2 Symposium (2014), Prague, Czech Republic. (pdf)

G. Xhixha, M. Baldoncini, G.P. Bezzon, G.P. Buso, I. Callegari, T. Colonna, G. Fiorentini, G. Gjeta, M. Goga, E. Guastaldi, F. Hasani, F. Mantovani, L. Mou, C. Rossi Alvarez, V. Strati, M. Xhixha Kaçeli, A. Zanon. *Assessment of Naturally Occurring Radioactive Materials (NORMs) in soils from the Kuçova oilfield, Albania.* 7th International Conference on Environmental And Geological Science And Engineering (EG 2014), Salerno, Italy. Latest Trends in Energy, Environment and Development, 154-160. ISBN: 978-960-474-375-9 (2014). (pdf)

M. Baldoncini, J. Esposito, L. Ludhova, F. Mantovani, B. Ricci, G. Xhixha, S. Zavatarelli. *Geo-neutrinos and reactor anti-neutrinos expected in Daya Bay II and in LENA*. Japan Geoscience Union Meeting (JpGU 2014) Pacifico Yokohama, Kanagawa, Japan. (2014). (pdf)

V. Strati, Y. Huang, F. Mantovani, S. Shirey, R. Rudnick, W. F. Mcdonough. *Towards a refined regional geological model for predicting geoneutrinos flux at Sudbury Neutrino Observatory (SNO+)*. Japan Geoscience Union Meeting (JpGU 2014) Pacifico Yokohama, Kanagawa, Japan. (2014). (pdf)

Ricci. B., Mantovani F., Baldoncini M., Ludhova L., Esposito J., Zavatarelli S. Reactor antineutrinos signal all over the world. Pos Proceedings Of Science, PoS(NEUTEL2013), ISSN:1824-8039 (2014). (pdf)

L. Pinto, G. Sona, R. Gini, M. Reguzzoni, D. Passoni, D. Sampietro, F. Mantovani. *Rilievo geodetico e fotogrammetrico di supporto a misure di radioattività ambientale da autogiro.* Atti 17a Conferenza Nazionale ASITA - Riva del Garda 5-7 November 2013. ISBN 978-88-903132-8-8 (2013) (pdf)

A. Ahmeti, G. Xhixha, G. P. Bezzon, M. Bitri, C. Broggini, G. P. Buso, A. Caciolli, I. Callegari, F. Cfarku, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, D. Prifti, C. Rossi Alvarez, Dh. Sadiraj Kuqi, M. Shyti, L. Tushe, M. Xhixha Kaçeli, A. Zyfi. *Natural radioactivity in clay bricks and cements used in Albania*. Natura Monetegrina (Special Issue) (2013) - 5th International Symposium of the Ecologists of the Republic of Montenegro (ISEM5 2013), Tivat, Montenegro, 12(3-4):1003-1012. ISBN 978-86-908743-4-7 (2013) (pdf)

G.P. Bezzon, G.P. Buso, C. Broggini, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, M. Shyti, M. Kaçeli Xhixha, G. Xhixha, A. Zanon. *First flight test on Elba Island for the Airborne gamma-ray Survey System developed at LNL*. INFN-LNL Rep. 239, 148-149. ISSN: 1828-8561 (2013) (pdf)

G.P. Bezzon, G.P. Buso, C. Broggini, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, M. Shyti, M. Kaçeli Xhixha, G. Xhixha, A. Zanon. *Soil isotopic abundances reconstructed by using simulated spectra*. INFN-LNL Rep. 239, 194-195. ISSN: 1828-8561 (2013) (pdf)

G.P. Bezzon, G.P. Buso, C. Broggini, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, M. Shyti, M. Kaçeli Xhixha, G. Xhixha, A. Zanon. *Monte Carlo simulation to describe airborne survey effects*. INFN-LNL Rep. 239, 196-197. ISSN: 1828-8561 (2013) (pdf)

Strati V, M. Baldoncini , G. P. Bezzon , C. Broggini, G. P. Buso, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, M. Kaceli Xhixha, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, G. Xhixha. *Studio preliminare del contenuto di radioattività delle principali formazioni rocciose delle aree alpine, prealpine e collinari della Regione Veneto.* Mus. Civ. Rovereto, Atti del Workshop in geofisica. ISBN 978-88-7498-200-4 (2013) (pdf)

Puccini A, Xhixha G, Cuccuru S, Oggiano G, Kaceli Xhixha M, Mantovani F, Rossi Alvarez C & Casini L. *Radiogenic heat potential of the Sardinian Variscan crust.* Mineralogical Magazine, 77(5) 2002, (2013). DOI 10.1180/minmag.2013.077.5.24 (pdf)

Fiorentini G., G.L. Fogli, E. Lisi, F. Mantovani, A. M. Rotunno, G. Xhixha. *Exploring the Earth's mantle with geoneutrinos*. Il Nuovo Cimento C, 36, 239-242, (2013). DOI 10.1393/ncc/i2013-11446-1 (pdf).

Fiorentini G., G.L. Fogli, E. Lisi, F. Mantovani, A.M. Rotunno, G. Xhixha. *The Earth's mantle and geoneutrinos*. Nuclear Physics B - Proceedings Supplements, 237-238, 82-84. ISSN 0920-5632, (2013). DOI 10.1016/j.nuclphysbps.2013.04.062 (pdf).

Huang Y, Chubakov V, Mantovani F, Rudnick R & McDonough W. *A reference Earth model for the heat producing elements and associated geoneutrino flux Mineralogical Magazine* 77(5) 1341, (2013). DOI 10.1180/minmag.2013.077.5.24 (pdf)

Xhixha G, Bezzon G, Broggini C, Buso G, Caciolli A, Callegari I, Colonna T, Fiorentini G, Guastaldi E, Kaçeli Xhixha M, Mantovani F, Massa G, Menegazzo R, Mou L, Rossi Alvarez C & Strati V. *Automated γ-ray spectrometer for monitoring wastes made by non-nuclear industries.* Mineralogical Magazine, 77(5) 2519, (2013). DOI10.1180/minmag.2013.077.5.24 (pdf)

Guastaldi E, Baldoncini M, Bezzon G, Broggini C, Buso GP, Caciolli A, Callegari I, Colonna T, Fiorentini G, Kaçeli Xhixha M, Mantovani F, Massa G, Menegazzo R, Mou L, Rossi Alvarez C, Strati V & Xhixha G. *Mapping the natural radioactivity of Elba Island by means of geostatistical interpolation of airborne gamma-ray data.* Mineralogical Magazine, 77(5) 1224, (2013). DOI10.1180/minmag.2013.077.5.24 (pdf)

G. Xhixha, A. Ahmeti, G.P. Bezzon, M. Bitri, C. Broggini, G.P. Buso, A. Caciolli, I. Callegari, F. Cfarku, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, Dh. Sadiraj Kuqi, M. Shyti, V. Strati, M. Xhixha Kaçeli, P. Zdruli, A. Zyfi. *Natural radioactivity in chemical fertilizers used in Albania investigated with a fully automated gamma-ray spectrometer*. International Conference of Ecosystems (ICE2013) Tirana, Albania, 31 June - 5 July, 2013. ISBN: 978-9928-4068-6-6 (pdf)

Guastaldi E., G.P. Bezzon, C. Broggini, G.P. Buso, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, G. Xhixha, and A. Zanon. *Integrating of airborne gamma-ray survey and geological data for environmental radioactivity map construction*. 9th Conference on Geostatistics for Environmental Applications, geoENV2012, Valencia, Spain, September 19-21 (2012) pp. 137-144. ISBN: 978-84-8363-924-5 (pdf)

Huang Y., V. Chubakov, F. Mantovani, W. F. McDonough, R. L. Rudnick. *Towards a refined reference Earth model for geo-neutrinos*. 12th International Conference on Topics in Astroparticle and Underground Physics (TAUP2011). Journal of Physics: Conference Series 375, 042041, ISSN 1742-6596, (2012). DOI10.1088/1742-6596/375/4/042041 (pdf)

Caciolli A., G. Bezzon, G. Buso, C. Broggini, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, M. Shyti, G. Xhixha, M. K. Xhixha, A. Zanon. *The Non Negative Least Square Applied to the Full Spectrum Analysis.* INFN-LNL Rep. 238, p.129-130, ISSN 1828-8545 (2012) (pdf)

Mou L.,G. P. Bezzon, G.P. Buso, C. Broggini, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, C. Rossi Alvarez, M. Shyti, G. Xhixha, M. Kaçeli Xhixha, A. Zanon. *Mapping of Natural Radioelements Using γ-Ray Spectrometry: Veneto Region Case of Study.* INFN-LNL Rep. 238, p.131-132, ISSN 1828-8545 (2012). (pdf)

Xhixha G., G. P. Bezzon, G.P. Buso, C. Broggini, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, M. Shyti, M. Kaçeli Xhixha, A. Zanon. *Airborne γ-Ray Survey System Developed at LNL.* INFN-LNL Rep. 238, p.133-134, ISSN 1828-8545 (2012) (pdf)

Huang Y., W. F. McDonough, R. L. Rudnick, F. Mantovani, S. B. Shirey, S. Dye. *Regional Study of the Archean to Proterozoic Crust at the Sudbury Neutrino Observatory (SNO+), Ontario: Predicting the Geoneutrino Flux*. Abstract U41A-0009 Poster presented at (2011) Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec, (2011) (link)

Galiberti A., R. Salvini, M. Tarantini, F. Mantovani, M. Bottacchi, I. Callegari, M. Lino, F. M. Martino, C. Rossi, M. Mondet. *Mining landscape and mines. integrating digital aerial photogrammetry and geophysical prospecting in Gargano area (Italy)*. in "Hidden Landscapes of Mediterranean Europe. Cultural and methodological biases in pre- and protohistoric landscape studies". BAR International Series 2320, Archeopress, Oxford, ISBN 9781407309033, (2011) (pdf).

Mou L., M. Baldoncini , G. P. Bezzon , C. Broggini, G. P. Buso, A. Caciolli, I. Callegari, T. Colonna, G. Fiorentini, E. Guastaldi, F. Mantovani, G. Massa, R. Menegazzo, C. Rossi Alvarez, M. Shyti, G. Xhixha, M. Xhixha. *Nuovo spettrometro gamma per il monitoraggio della radioattività in situ*. Mus. Civ. Rovereto, Atti del Workshop in geofisica. ISBN 978-88-7498-160-1, (2011) (pdf)

Coltorti M., R. Boraso, F. Mantovani, M. Morsilli, G. Fiorentini, G. Rusciadelli. *An integrated approach to estimate the U and Th content of the Central Apennines continental crust*. Goldschmidt Abstracts (2011), Mineralogical Magazine 75, 609-711, ISSN 0026-461X, (2011) (pdf)

Bellotti E., P. Bezzon, C. Broggini, P. Buso, A. Caciolli, I. Callegari, L. Carmignani, T. Colonna, G. Di Carlo, P. Fantozzi, G. Fiorentini, E. Guastaldi, F. Mantovani, S. Mariani, G. Massa, L. Mou, C. A. Rossi, M. Shyti, G. Xhixha. *Carta del contenuto di radioattività del territorio della regione Toscana in scala 1:250.000*. (2011) (pdf)

Fiorentini G., V. Chubakov, F. Mantovani, B. Ricci. *Radiogenic contribution to Earth's heat flow studied thought geo-neutrinos.* XIV International Workshop on "Neutrino Telescopes", Venice, ISBN 978-88-97645-01-6, (2011). (pdf)

Bezzon G. P., G. P. Buso, C. Broggini, A. Caciolli, I. Callegari, T. Colonna, E. Guastaldi, F. Mantovani, S. Mariani, G. Massa, R. Menegazzo, L. Mou, C. Rossi Alvarez, M. Shyti, G. Xhixha. *Mapping of natural radioelements using gamma-ray spectrometry: Tuscany Region case of study*. INFN-LNL Rep. 234, ISSN 1828-8545, (2011) (pdf)

Bezzon, G.P. G. P. Buso, C. Broggini, A. Caciolli, F. Mantovani, R. Menegazzo, L. Mou, C. Rossi Alvarez, M. Shyti, G. Xhixha, A. Zanon. *A γ-Spectroscopy System for Atmospheric Radon Detection.* INFN-LNL Rep. 234, ISSN 1828-8545, (2011). (pdf)

Bellini G., A. Ianni and F. Mantovani. *Looking into the Earth's interior with geo-neutrinos.* CERN Cour. 51 N3, ISSN 0007-831X, (2011) (pdf)

Fiorentini G., M. Lissia, F. Mantovani, V. Chubakov. *Geo-Neutrinos And Radiogenic Contribution To Earth's Heat Flow.* AIP Conf. Proc. Vol. 1304, 283-290, ISSN 0094-243X, (2010) (pdf)

Puccini A., S. Cuccuru, D. Sechi, G. Oggiano, F. Mantovani, G. Xhixha, S. Mariani. *Employment of portable gamma-ray spectrometer in survey and mapping of intrusive complexes: a case study from the Buddusò pluton (Sardinia).* Atti 85° Congr. Soc. Geol. It., vol. 11, ISBN 978-88-548-3745-4, (2010) (pdf)

Bezzon G. P., G. Buso, I. Callegari, T. Colonna, E. Guastaldi, F. Mantovani, S. Mariani, G. Massa, C. Rossi Alvarez, M. Shyti, G. Xhixha. *Preliminary results for the characterization of the radiological levels of rocks in Tuscany Region.* Atti 85° Congr. Soc. Geol. It., vol. 11, ISBN 978-88-548-3745-4, (2010) (pdf)

Puccini A., S. Cuccuru, D. Sechi, G. Oggiano, F. Mantovani, G. Xhixha, S. Mariani. *Natural radioactivity in Sardinian granite dimension stones.* Atti 85° Congr. Soc. Geol. It., vol. 11, ISBN 978-88-548-3745-4, (2010) (pdf)

Bezzon G. P., G.P. Buso, I. Callegari, T. Colonna, E. Guastaldi, F. Mantovani, S. Mariani, G. Massa, C. Rossi Alvarez, M. Shyti, G. Xhixha. *Preliminary results for the characterization of the radiological levels of rocks in Tuscany Region*. INFN-LNL Rep. 230, ISSN 1828-8545, (2010) (pdf)

Oggiano G., T. Colonna, F. Mantovani. *L'acqua nelle murature del Canopoleno nel quadro della circolazione sotterranea in centro storico: evidenze geologiche, storiche e geofisiche*. In Casula A., Della Torre S., Gizzi S., Rosina E. (Eds.), *Il Canopoleno di Sassari da casa professa a pinacoteca. Storia e restauri.* Silvana Ed., ISBN: 9788836611850, (2009) (link)

Bottacchi M. C., T. Colonna, F. Mantovani and M. Medri. *Application of the OhmMapper resistivity-meter to detect the theatre of Sentinum Roman town by using 3D resistivity model*. ArchéoSciences 33 (suppl.), ISSN 2104-3728, (2009) (pdf)

Bottacchi M. C., F. Mantovani. *Principi di fisica per la geoelettrica*. In E. Giorni (Ed.), *Groma 2 - In profondità senza scavare*. BraDypUS communicating cultural heritage Ed., ISBN 9788890429408, (2009) (pdf)

Pasquini A., L. Martelli, F. Mantovani, L. Carmignani, T. Colonna, F. Manetti, D. Morini, S. Signorini. *Geological implications of the geothermal ground probe coupled with the heat pump*. 6th EUREGEO Congress Munich (2009), vol. 2, (2009) (pdf)

Bellotti E., G. Bezzon, C. Broggini, G. Buso, I. Callegari, G. Di Carlo, G. Firpo, E. Guastaldi, F. Mantovani, S. Mariani, G. Massa, C. Rossi Alvarez. *Airborne gamma ray spectrometry test for natural radioelement mapping in Tuscany region.* Atti 84° Congr. Soc. Geol. It., vol. 3, (2008) (pdf)

Bellini G., G. Fiorentini, A. Ianni, M. Lissia, F. Mantovani, and O. Smirnov. *Nuclear physics inputs needed for geo-neutrino studies.* J. Phys.: Conf. Ser. 120 052007, ISSN 1742-6596, (2008) (pdf)

Colonna T., L. Bianconi, L. Forconi, F. Mantovani. *Studio di potenziali acquiferi mediante indagini geoelettriche nel villaggio di itigi (Singida - Tanzania).* Mus. Civ. Rovereto, Atti del Workshop in geofisica, 175-190, ISBN 978-88-7498-106-9, (2008) (pdf)

Cavalieri M., M. Bottacchi, F. Mantovani, G. Ricciardi. *Misure di resistività mediante OhmMapper finalizzate allo studio del sito di Torraccia di Chiusi.* Archeologia e Calcolatori n. XVIII, 159-185, ISSN 1120-6861, (2007) (pdf)

Fiorentini G., M. Lissia, F. Mantovani, B. Ricci. *Perspectives for geo-neutrinos after KamLAND.* Journal of Physics: Conference Series, vol. 39, pp. 257- 262, ISSN 1742-6596, (2006). DOI10.1088/1742-6596/39/1/062 (pdf)

Fiorentini G., Lissia M., Mantovani F., Vannucci R. *Geo-Neutrinos in Monitoring Geochemical and Geodynamic Models of Mantle* Circulation. Geochimica et Cosmochimica Acta, 68(11) Supplement. Goldschmidt Conference proceeding (Copenhagen 5-11 June 2004). DOI 10.1016/j.gca.2004.05.013 (pdf)

Fiorentini G., M. Lissia, F. Mantovani, R. Vannucci. *Geo-neutrinos, Mantle Circulation and Silicate Earth.* PoS AHEP003, 035, ISSN 1824-8039, (2004) (pdf)

Fiorentini G., M. Lissia, F. Mantovani, B. Ricci. *Neutrinos from San Marco and Below*. X International Workshop on "Neutrino Telescopes", 11-14 March (2003), Venice (pdf)

Mantovani F., Petrucci F., Turricchia A., Zini G., Benacchio L., Zanella A. *Attività legate alla Fisica Moderna eseguite nelle scuole dell'obbligo a partire dalle elementari.* Atti del XL Congresso Nazionale AIF, Senigallia 2001, pp. 15-19, ISSN 1120-6527 ANNO XXXVI (2003) (pdf)

Mantovani F. *Un universo di colori. Idee didattiche alla scoperta dei misteri dell'Universo attraverso la spettroscopia*. Giornale di Astronomia, Vol. 27, N. 2, p. 16 - 23, ISSN 0339-1106, (2001) (pdf)

SPEAKER AT SCIENTIFIC CONGRESSES AND SUMMER SCHOOL

30 September 2022
Characterization of 137Cs in waste contained in unconventional materials using innovative techniques
Organizer: XXXVIII Congresso Nazionale Airp Di Radioprotezione

29 September 2022
RadHawk: a smart UAV for radiation survey
Organizer: Technical Meeting on the Use of Uncrewed Aerial Systems for Radiation Detection and Surveillance IAEA – Brno – Czech Republic

1 December 2021
The role of Borexino in geoneutrino physics
Organizer: Borexino General Meeting - Special Session

25 August 2021
Geoneutrino: state of the art and prospects
Organizer: Twentieth Lomonosov Conference On Elementary Particle Physics (virtual)

29 July 2020
Improved geoneutrino results from Borexino
Organizer: International Conference on High Energy Physics (virtual)

21 October 2019
Geoneutrino measurements with Borexino: implications for geoscience
Organizer: Neutrino Geoscience 2019 – 21-23 October 2019 – Prague

26-28 June 2018
Geoneutrinos for unveiling the Earth's interior

3rd European Mantle Workshop - Pavia - Italy

7-8 January 2016
Last and next decade in geoneutrino measurements
1st International workshop for neutrino oscillation tomography - Earthquake Research Institute - University of Tokyo

30-31 October 2015
Geo-neutrinos as a probe of Earth's interior
Workshop on Space Particles and Earth - University of Évora - Portugal

15-16 January 2015
International Workshop on KamLAND Geoscience - Tokyo (Japan)
Title: *A Refined Reference Model for geoneutrinos at Borexino*

28 April - 2 May 2014
A reference Earth model for geoneutrinos
Japan Geoscience Union Meeting 2014 - Pacifico Yokohama (Japan)

21-23 March 2013
Geo-neutrinos: combined KamLAND and Borexino analysis, and future
Neutrino Geoscience 2013 - Takayama (Japan)

11-13 February 2013
Half-life of ^{214}Po and ^{212}Po measured with CTF at LNGS
2nd International Conference on Po and radioactive Pb isotopes - INCO-PoPb-2013 - Mangalore (India)

11-13 April 2012
Geoneutrinos: a new probe for exploring Earth's interior
IFAE - Incontri di Physics delle Alte Energie - Ferrara (Italy)

15-16 September 2011
Geo-neutrinos: phenomenology and experimental prospects
7th Applied Antineutrino Physics (AAP) - Vienna (Austria)

5-9 September 2011
Towards a refined reference Earth model for geo-neutrinos
12th International Conference on Topics in Astroparticle and Underground Physics (TAUP) - Munich (Germany)

21 June 2011
Geoneutrinos: Global Crust Model and LNGS Study
Center for Theoretical Underground Physics and Related Areas (CETUP) - Dakota State University - South Dakota (US)

15 April 2011
Monitoring the terrestrial radioactivity
IV Scuola Nazionale "Rivelatori ed Elettronica per Physics delle Alte Energie, AstroPhysics, Applicazioni Spaziali e Physics Medica" - INFN National Laboratories of Legnaro (Italy)

25 August 2010
Geo-neutrinos: a new probe of Earth's interior
International Neutrino Summer School (2010) - Yokohama / Tokai, J-PARC (Japan)

2 July 2010
Geo-neutrinos: a new probe of Earth's interior
Exotic Nuclei And Nuclear/Particle Astrophysics (III): From Nuclei To Stars (CSSP) - Sinaia (Romania)

19-21 October 2009
Towards a Refined Reference Model for Geo-neutrinos
LowNu (2009) - Neutrino Champagne - Reims (France)

17-19 September 2008
Local Geology Relevant for Geoneutrinos at Gran Sasso
Neutrino Geoscience (2008) - Sudbury (Canada)

11-15 September 2007

A *roadmap for geo-neutrinos: theory and experiment*
International Conference on Topics in Astroparticle and Underground Physics (TAUP) - Senday (Japan)

14-16 December 2005
Geo-neutrino reference model and uncertainties
Neutrino Geophysics - Honolulu (Hawaii)

OUTREACH SEMINARS

4 November 2022
A different perspective to value the land
Organizer: Ferrara Food Festival

18 June 2022
A change of perspective
Organizer: Comune, impresa, ricerca scientifica e buona informazione: alleati per il bene comune – Comune di Vetto

15 June 2022
Airborne multiparameter measurements
Organizer: Crowd for the Environment - Italian Aerospace Research Centre (CIRA)

14 July 2021 (virtual)
Discovering the radioactivity around us
Organizer: Unife Summer Campus

3 February 2021 (virtual)
Discovering the radioactivity around us
Organizer: Corso di Eccellenza

18 December 2020 (virtual)
Nuclear Technologies for Agriculture 4.0
Organizer: Italian Aerospace Research Centre (CIRA)

16 December 2019
State of the art of Geoneutrino and future prospects
Organizer: Experimental Particle and Astro-Particle Physics Seminar - University of Zurich

23 January 2019
Discovering the radioactivity around us
Organizer: Corso di Eccellenza

11 March 2017 - Belluno
The radioactivity around us
Organizer: Dolomiti in Scienza (2017) - "Gruppo Divulgazione Scientifica - E. Fermi - Belluno"

8 February 2017
Discovering the radioactivity around us
Organizer: Corso di Eccellenza

5 October 2016
Nuclei for environment
Organizer: Comune di San Nicolò

22 April 2016
Chernobyl and wild boar: 30 years of history
Organizer: X Congresso Italiano di Teriologia - Associazione Teriologica Italiana

12 March 2016
Exploring the Earth with geoneutrinos
Organizer: Dolomiti in Scienza 2016 - Gruppo Divulgazione Scientifica Dolomiti E. Fermi

12 March 2016
Exploring the Earth with geoneutrinos
Organizer: Dolomiti in Scienza 2016 - Gruppo Divulgazione Scientifica Dolomiti E. Fermi

22 April 2015
Nuclei for environment
Organizer: Comune di Legnaro

28 March 2014
The radioactivity around us
Organizer: Comune di Codognè

21 March 2014
Exploring the Earth with geoneutrinos
Organizer: Museo Civico di Rovereto

12 April 2013
Exploring the Earth with geoneutrinos
Organizer: Venerdì dell'Universo - University of Ferrara

25 March 2011 - Ravenna
Nuclear energy and radioactivity: new challenges
Organizer: I pomeriggi della Scienza al Liceo Oriani - Liceo Scientifico Oriali

3 March 2011 - Ferrara
Natural radioactivity: from Marie Curie to geoneutrinos
Organizer: Corso di Eccellenza at the Department of Physic of the University of Ferrara

26 February 2011 - Belluno
Radioactivity: a fascinating physics phenomenon
Organizer: Dolomiti in Scienza (2011) - Gruppo Divulgazione Scientifica - E. Fermi - Belluno

11 February 2011 - Massa
Radioactivity: a fascinating physics phenomenon
Organizer: Massa Scienza - Comune di Massa - Assessorato Turismo, Cultura, Pubblica Istruzione e Gemellaggi

10 December 2010 - Rovereto
Investigating natural radioactivity with gamma spectroscopy
Organizer: VII Workshop in GeoPhysics - Museo Civico di Rovereto

TEACHING

Academic year	Institution	Degree	Lectures	Credits	Hours
2022-2023	University of Ferrara	Bachelor in Agricultural technologies and aquaculture of the delta	Precision agriculture and proximity measures	6	48
		Master in Physics	Nuclear and subnuclear geophysics	6	54
		Master in Physics	Environmental radioactivity	6	54
2021-2022	University of Ferrara	Master in Pharmacy	General physics	6	48
		Master in Physics	Nuclear and subnuclear geophysics	6	54
		Master in Physics	Environmental radioactivity	6	54
2020-2021	University of Ferrara	Master in Pharmacy	General physics	6	48
		Master in Physics	Nuclear and subnuclear geophysics	6	54
		Master in Physics	Environmental radioactivity	6	54
2019-2020	University of Ferrara	Master in Pharmacy	General physics	6	48
		Master in Physics	Frontiers of radiation monitoring in the environment	6	54
		Master in Physics	Nuclear and subnuclear astrophysics	6	54
2018-2019	University of Ferrara	Master in Pharmacy	General physics	6	48
		Master in Physics	Frontiers of radiation monitoring in the environment	6	54
		Master in Physics	Nuclear and subnuclear astrophysics	6	54
2017-2018	University of Ferrara	Master in Physics	Frontiers of radiation monitoring in the environment	6	48
		Bachelor in Geological Sciences	Physics II	6	48
		Bachelor in Information Technology	Physics II	6	48
2016-2017	University of Ferrara	Master in Physics	Nuclear and Subnuclear Astrophysics	6	42
		Bachelor in Geological Sciences	Physics II	6	48
		Bachelor in Information Technology	Physics II	6	48
2015-2016	University of Ferrara	Master in Physics	Nuclear and Subnuclear Astrophysics	6	42
		Bachelor in Geological Sciences	Physics II	6	48
		Bachelor in Information Technology	Physics II	6	48
2014-2015	University of Ferrara	Master in Physics	Nuclear and Subnuclear Astrophysics	6	42
		Bachelor in Geological Sciences	Physics II	6	48
2013-2014	University of Ferrara	Bachelor in Physics and Astrophysics	Elements of Astrophysics	6	48
		Bachelor in Geological Sciences	Physics II	6	48
2012-2013	University of Ferrara	Bachelor in Physics and Astrophysics	Elements of Astrophysics	6	48
		Bachelor in Geological Sciences	Physics II	6	60
2011-2012	University of Ferrara	Bachelor in Physics and Astrophysics	Elements of Astrophysics	6	48
		Bachelor in Geological Sciences	Physics II	6	60
	University of Siena	Master in Applied Geophysics	Physics Principles for Geology	4	36
2010-2011	University of Ferrara	Bachelor in Physics and Astrophysics	Elements of Astrophysics	6	48
		Bachelor in Geological Sciences	Physics II	6	60
2009-2010	University of Ferrara	Bachelor in Physics and Astrophysics	Elements of Astrophysics	6	48
		Bachelor in Geological Sciences	Physics II	6	60
2008-2009	University of Ferrara	Bachelor in Physics and Astrophysics	Elements of Astrophysics	6	48
		Bachelor in Geological Sciences	Physics II	6	60
	University of Siena	Bachelor in Geotechnologies	Geophysics	6	60

Academic year	Institution	Degree	Lectures	Credits	Hours
2007-2008	University of Siena	Master in Applied Geophysics	Applied Geophysics	6	60
		Bachelor in Geotechnologies	Fundaments of Mathematics	6	60
		Master in Geotechnologies for Archaeology	Methods and Geological Technologies	6	48
2006-2007	University of Siena	Master in Applied Geophysics	Applied Geophysics	3	24
		Bachelor in Geotechnologies	Fundaments of Mathematics	6	60
		Bachelor in Geotechnologies	Experimental Physics	6	60
		Master in Geotechnologies for Archaeology	Methods and Geological Technologies	6	48
2005-2006	University of Siena	Master in Applied Geophysics	Applied Geophysics	2	16
		Bachelor in Geotechnologies	Fundaments of Mathematics	6	60
		Bachelor in Geotechnologies	Experimental Physics	6	60
		Master in Geotechnologies for Archaeology	Methods and Geological Technologies	6	48
2004-2005	University of Siena	Bachelor in Geotechnologies	Fundaments of Mathematics	6	60
		Bachelor in Geotechnologies	Experimental Physics	6	60
2003-2004	University of Siena	Bachelor in Geotechnologies	Fundaments of Mathematics	6	60
		Bachelor in Geotechnologies	Experimental Physics	6	60
2002-2003	University of Siena	Bachelor in Geotechnologies	Fundaments of Mathematics	6	48
		Bachelor in Geotechnologies	Experimental Physics	6	48

PHD THESIS SUPERVISOR OR ASSISTANT SUPERVISOR

2020-2021 – PhD in Physics (XXXIV cycle) – University of Ferrara
Exploiting ^{40}K radioactivity to probe the Earth and the environment
Student: Andrea Serafini
Supervisor: Fabio Mantovani

2019-2020 – PhD in Physics (XXXII cycle) – University of Ferrara
Exploring lower atmosphere and topsoil with gamma-ray spectroscopy
Student: Carlo Bottardi
Supervisor: Fabio Mantovani

2017-2018 – PhD in Physics (XXX cycle) – University of Ferrara
Gamma radiation: a probe for exploring terrestrial environment
Student: Matteo Albèri
Supervisor: Fabio Mantovani

2016-2017 – PhD in Physics (XXIX cycle) – University of Ferrara
The CLAS12 RICH readout electronics: design, development and test
Student: Matteo Turisini
Supervisor: Fabio Mantovani

2016-2017 – PhD in Physics (XXIX cycle) – University of Ferrara
New challenges in the spectral reconstruction of terrestrial gamma rays and reactor antineutrinos
Student: Marica Baldoncini
Supervisor: Fabio Mantovani

2015-2016 – PhD in Physics (XXVIII cycle) – University of Ferrara
Advanced modeling for studying antineutrinos and gamma rays coming from the Earth
Student: Virginia Strati
Supervisor: Fabio Mantovani

2012-2013 – PhD in Natural Science (XXVI cycle) – University of Sassari
New gamma-ray spectrometry methods for estimating K, U, Th concentrations in rocks of the Sardinia Batholith
Student: Xhixha Kaçeli Merita
Supervisor: Giacomo Oggiano
Assistant supervisor: Fabio Mantovani

2011-2012 – PhD in Physics (XXV cycle) – University of Ferrara
A refined reference Earth model for the geo-neutrino studies at Borexino
Student: Viacheslav Chubakov
Supervisor: Giovanni Fiorentini
Assistant supervisor: Fabio Mantovani

2011-2012 – PhD in Physics (XXV cycle) – University of Ferrara
Calibration and performances of in-situ gamma ray spectrometer
Student: Manjola Shyti
Supervisor: Giovanni Fiorentini
Assistant supervisor: Fabio Mantovani

2010-2011 – PhD in Physics (XXIV cycle) – University of Ferrara
Advances γ-ray spectrometry for environmental radioactivity monitoring
Student: Gerti Xhixha
Supervisor: Giovanni Fiorentini
Assistant supervisor: Fabio Mantovani

2009-2010 – PhD in Environmental, geological and polar sciences and technologies (XXIII cycle) – University of Siena
Caratterizzazione del contenuto di radioattività naturale nelle rocce del complesso metamorfico delle Alpi Apuane
Student: Sara Mariani
Supervisor: Riccardo Salvini
Assistant supervisor: Fabio Mantovani

2007-2008 – PhD in Earth Science (XX cycle) – University of Siena

Caratterizzazione elettrica di depositi argillosi di origine glaciale, marina ed idrotermale attraverso indagini in situ ed in laboratorio
Student: Tommaso Colonna
Supervisor: Luigi Carmignani
Assistant supervisor: Fabio Mantovani

MASTER THESIS SUPERVISOR OR ASSISTANT SUPERVISOR

2017-2018 – Master's Degree in Physics (University of Ferrara)
Geoneutrinos from Potassium in the Earth
Student: Andrea Serafini
Supervisor: Fabio Mantovani
Assistant supervisor: Baldoncini Marica
Assistant supervisor: Strati Virginia

2017-2018 – Master's Degree in Physics (University of Ferrara)
Study of the rain-induced gamma activity due to atmospheric radon daughters
Student: Gerard Grande Bartumeu
Supervisor: Fabio Mantovani
Assistant supervisor: Carlo Bottardi

2014-2015 – Master's Degree in Physics (University of Ferrara)
Time and charge response of linear alkylbenzene scintillators for JUNO experiment
Student: Ivan Battaglia
Supervisor: Fabio Mantovani
Assistant supervisor: Barbara Ricci
Assistant supervisor: Paolo Lombardi

2012-2013 – Master's Degree in Physics (University of Ferrara)
Performance validation of a lightweight collimated gamma-ray spectrometer for in situ survey
Student: Carolina Robustini
Supervisor: Fabio Mantovani
Assistant supervisor: Xhixha Gerti

2012-2013 – Master's Degree in Physics (University of Ferrara)
Validation of a Monte Carlo method for the calibration of an airborne gamma-ray detector
Student: Marica Baldoncini
Supervisor: Fabio Mantovani
Assistant supervisor: Xhixha Gerti

2011-2012 – Master's Degree in Geological Sciences and Technologies (University of Siena)
Analisi del contenuto di radioattività delle principali formazioni rocciose delle aree alpine, prealpine e collinari della Regione Veneto, finalizzata alla produzione di carte tematiche della distribuzione di radionuclidi naturali
Student: Virginia Strati
Supervisor: Luigi Carmignani
Assistant supervisor: Fabio Mantovani

2009-2010 – Master's Degree in Physics (University of Ferrara)
L'esplorazione del pianeta Terra attraverso i geo-neutrini
Student: Golfarin Cristian
Supervisor: Fabio Mantovani

2008-2009 – Master's Degree in Applied Geology (Center for GeoTechnologies - University of Siena)
La dispersione di onde superficiali: un approccio di analisi e processing dei dati
Student: Piero Poli
Supervisor: Fabio Mantovani
Assistant supervisor: Tommaso Colonna

2008-2009 – Master's Degree in Applied Geology (Center for GeoTechnologies – University of Siena)
L'impiego della spettroscopia ad impedenza per lo studio del contenuto idrico e di ghiaccio nei suoli: messa a punto di una strumentazione prototipale e di una metodologia d'acquisizione
Student: Giulia Ricciardi

Supervisor: Fabio Mantovani
Assistant supervisor: Marco Bittelli

2008-2009 – Master's Degree in Applied Geology (Center for GeoTechnologies – University of Siena)
L'importanza dei parametri geologici per l'ottimizzazione di sonde geotermiche applicate a pompe di calore: stime teoriche e casi di studio
Student: Alfia Pasquini
Supervisor: Fabio Mantovani
Assistant supervisor: Tommaso Colonna

2007-2008 – Master's Degree in Applied Geology (Center for GeoTechnologies – University of Siena)
Caratterizzazione di depositi argillosi nella Sardegna nord-occidentale mediante modelli di resistività elettrica
Student: Ivan Comes
Supervisor: Fabio Mantovani
Assistant supervisor: Tommaso Colonna

2007-2008 – Master's Degree in Applied Geology (Center for GeoTechnologies – University of Siena)
Studio di modelli di resistività finalizzati alla caratterizzazione di un acquifero in località Bassa (Cerreto Guidi-Firenze)
Student: Catia Salvadori
Supervisor: Fabio Mantovani
Assistant supervisor: Claudio Rossi

2007-2008 – Master's Degree in Applied Geology (Center for GeoTechnologies – University of Siena)
La Paleofrana di Aulla: uno studio comparato dei modelli geologici, geomorfologici e di resistività
Student: Italo Giuseppe Di Giovanni
Supervisor: Luigi Carmignani
Assistant supervisor: Fabio Mantovani

BACHELOR THESIS SUPERVISOR OR ASSISTANT SUPERVISOR

2019-2020 – Bachelor's Degree in Physics (University of Ferrara)
Tecniche di spettroscopia gamma e di telerilevamento di dati SAR Sentinel-1 per la stima del contenuto d'acqua del suolo in agricoltura di precisione
Student: Martina Natali
Supervisor: Fabio Mantovani
Assistant supervisor: Virginia Strati

2016-2017 – Bachelor's Degree in Geological Sciences (University of Ferrara)
Modellazione dei geoneutrini prodotti dalla crosta superiore nell'intorno del detector SNO+ (Canada)
Student: Sara Gizzi
Supervisor: Fabio Mantovani
Assistant supervisor: Virginia Strati

2016-2017 – Bachelor's Degree in Geological Sciences (University of Ferrara)
Studio del contenuto di radionuclidi naturali e del calore radiogenico delle rocce del complesso plutonico Carbonifero-Permiano sardo
Student: Nicola Tescaro
Supervisor: Fabio Mantovani
Assistant supervisor: Virginia Strati

2015-2016 – Bachelor's Degree in Physics (University of Ferrara)
Esposizione della popolazione della regione Umbria ai raggi cosmici: modelli e distribuzioni spaziali
Student: Kassandra Giulia Cristina Raptis
Supervisor: Fabio Mantovani
Assistant supervisor: Virginia Strati

2015-2016 – Bachelor's Degree in Information Technology (University of Ferrara)
Sviluppo di un sistema client-server e di interfacce grafiche per l'analisi spettrometrica a bordo di un rivelatore portatile di radiazione gamma
Student: Enrico Chiarelli
Supervisor: Fabio Mantovani
Assistant supervisor: Matteo Turisini

2013-2014 – Bachelor's Degree in Physics (University of Ferrara)
Modelli di distribuzione di Radon in atmosfera finalizzati alla correzione di misure di spettroscopia gamma airborne
Student: Nicola Ronca
Supervisor: Fabio Mantovani
Assistant supervisor: Marica Baldoncini

2011-2012 – Bachelor's Degree in Physics (University of Ferrara)
La distribuzione del fallout di 137Cs in alcuni suoli delle Prealpi venete
Student: Aurora Clerici
Supervisor: Fabio Mantovani
Assistant supervisor: Gerti Xhixha

2009-2010 – Bachelor's Degree in Physics and Astrophysics (University of Ferrara)
Studio del segnale di anti-neutrini da reattore nell'esperimento Borexino
Student: Silvia Vitali
Supervisor: Fabio Mantovani
Assistant supervisor: Barbara Ricci

2009-2010 – Bachelor's Degree in Physics and Astrophysics (University of Ferrara)
La distribuzione angolare di anti-neutrini in un detector a liquido scintillante di grandi dimensioni: un caso di studio sul detector LENA
Student: Provenzano Andrea
Supervisor: Fabio Mantovani
Assistant supervisor: Barbara Ricci

2008-2009 – Bachelor's Degree in Physics (University of Ferrara)
Applicazione del metodo Non Negative Least Square alla Full Spectrum Analysis nel processo di calibrazione di uno spettrometro diraggi gamma portatile
Student: Baldoncini Marica
Supervisor: Fabio Mantovani
Assistant supervisor: Carlos Rossi Alvarez

2007-2008 – Bachelor's Degree in Geotechnologies (Center for GeoTechnologies - University of Siena)
Studio dell'efficacia del metodo della resistività elettrica su rocce Zeolitizzate, nella zona del Mejlogu (SS)
Student: Riccardo Bianchi
Supervisor: Fabio Mantovani
Assistant supervisor: Tommaso Colonna

2007-2008 – Bachelor's Degree in Geotechnologies (Center for GeoTechnologies - University of Siena)
Studio di tomografie elettriche finalizzato alla stima dei livelli saturi presso il lago Baratz (SS)
Student: Marco Abbigliati
Supervisor: Fabio Mantovani
Assistant supervisor: Tommaso Colonna

2006-2007 – Bachelor's Degree in Geotechnologies (Center for GeoTechnologies - University of Siena)
Caratterizzazione idrogeologica del Borro del Giglio (Montevarchi) attraverso indagini geofisiche
Student: Riccardo Barletta
Supervisor: Fabio Mantovani
Assistant supervisor: Rudy Rossetto

2006-2007 – Bachelor's Degree in Geotechnologies (Center for GeoTechnologies - University of Siena)
Prospezioni geoelettriche finalizzate allo studio delle argille in sistemi alluvionali nell'area della Nurra (SS)
Student: Andrea Cacioli
Supervisor: Fabio Mantovani
Assistant supervisor: Tommaso Colonna

2005-2006 – Bachelor's Degree in Geotechnologies (Center for GeoTechnologies - University of Siena)
Prospezioni geoelettriche per lo studio di un tratto di percorso dell'acquedotto romano in Località Sesto Fiorentino (FI)
Student: Nadia Bianconi
Supervisor: Riccardo Salvini
Assistant supervisor: Fabio Mantovani

2005-2006 – Bachelor's Degree in Geotechnologies (Center for GeoTechnologies - University of Siena)
Misure di resistività finalizzate allo studio ed alla modellazione della "villa romana" rinvenuta in località Torraccia di Chiusi (San Gimignano - SI)
Student: Giulia Ricciardi
Supervisor: Fabio Mantovani