

CURRICULUM VITAE

GIUSEPPE ETIOPE

DATE/PLACE OF BIRTH December 6th 1966 - Rome (Italy)
NATIONALITY Italian
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TITLE and POSITION Ph.D. Geologist, Senior Researcher
Istituto Nazionale di Geofisica e Vulcanologia (INGV), Roma, Italy
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Brevium

Giuseppe Etiope, Petroleum Geologist, is Senior Researcher at INGV (Istituto Nazionale di Geofisica e Vulcanologia), Rome. He received his degree (1991) and Ph.D. (1995) in Earth Sciences from the University of Rome La Sapienza. He works on gas origin, occurrence and migration in the geosphere, with particular reference to gaseous hydrocarbons and hydrogen. His main research is focused on the origin and seepage of natural gas (gas-oil seeps, mud volcanoes, microseepage) with implications on energy resource exploration (assessment of petroleum and hydrogen systems, source rocks, biodegradation, secondary alterations, reservoir compartmentalization), environment (groundwater and soil pollution, geo-hazards) and global climate changes (atmospheric greenhouse gas budget). He worked in the framework of EU research programmes on gas migration, radioactive waste management, and development of submarine observatories. Recent studies are focused on the abiotic origin of gas on Earth and Mars, with reference to abiotic synthesis of methane in ultramafic rocks. He coordinated NATO (North Atlantic Treaty Organization) projects, which provided the first data on methane flux from mud volcanoes. Successive studies on gas seepage have provided the first global estimates of geo-methane emissions into the atmosphere, today endorsed in greenhouse-gas emission inventories of the Environmental European Agency, the US EPA and the IPCC. Research is based on collaborations with the Deep Carbon Observatory (Sloan Foundation), NASA, NOAA and universities and research centers in North and South America, Europe and Asia. In 2016 he was appointed as Guest Investigator for the Exomars 2016 mission of the European Space Agency (ESA), for the study of methane on Mars. He teaches Energy resources and Global Climate Change as Associate Professor at the Babes-Bolyai University (Cluj-Napoca, Romania). He is Associate Editor of Applied Geochemistry (Elsevier). He was Chair of the Best Paper Committee of Organic Geochemistry Division of the Geochemical Society, Editor of the Wiley's journal "Geofluids", reviewer of European Commission and US National Science Foundation projects, and referee of the 4th Assessment Report of IPCC. He published 237 articles and a Springer's book on "Natural Gas Seepage". H index: 49 (Web of Science); 62 (Google Scholar).

In the 100,000 top-scientist ranking of Stanford University (Ioannidis, 2023, doi: 10.17632/btchxktyw.6), G. Etiope is ranked ~30000 (for all scientific disciplines); 533 among world scholars within the category "geochemistry-geophysics"; 6th among "geochemistry-geophysics" Italian scholars and 1st among present researchers of the Istituto Nazionale di Geofisica e Vulcanologia.

Academic studies

1985-1990 Geological Sciences at the Earth Sciences Department, "La Sapienza" Rome University
Graduated on March 1991 (110/110 *cum laude*)

1991-1994 Ph.D. (1995) in Geological Sciences c/o "La Sapienza" Rome University. Score: *excellent*

Employment

2006-present Senior Researcher at Istituto Nazionale di Geofisica e Vulcanologia (INGV), Roma
2000-2006 Researcher at Istituto Nazionale di Geofisica e Vulcanologia (INGV), Roma
1996-2000 INGV fellowship
1995 INGV consultancy contract

Scientific activity and know-how

- Natural gas origin, occurrence and migration in rocks (holistic gas geochemistry)
- Hydrocarbon and hydrogen seepage, implications for
 - energy resource exploration (petroleum and hydrogen system evaluations)
 - atmosphere (greenhouse gas budget)
 - environment (soil-groundwater pollution, gas hazard, disposal of toxic or radioactive wastes)
 - structural geology and seismicity
- Development of global data-sets of petroleum seeps
- Abiotic gas in igneous rocks
- Origin of methane on Mars
- Fluid sampling and analysis in soil, groundwater, seawater; analysis of environmental data
- Development of closed-chamber systems for methane flux measurement
- Oceanographic cruises in the Tyrrhenian Sea, Ionian Sea, Mediterranean Sea, Marmara Sea (deep seawater sampling and geochemical analyses)
- Analysis of gas by mass spectrometry, gas chromatography, FTIR, TDLAS and alpha-counting.
- Design and construction of extraction and purification lines for gas dissolved in groundwater
- Design and execution of gas injection tests through boreholes.

Recent invited talks to scientific and public audience

- *Methane emission from abandoned oil-gas wells in Italy and Romania*, invited talk at the SPE Transatlantic Virtual Workshop: Onshore Plugging and Abandonment , 24 - 26 Jan 2023.
- *H₂ seep flux measurements: the importance of detecting advective flow*, Int. Workshop on Natural Production of Hydrogen, Delmenhorst, 15-17 Novembre, 2022
- *Abiotic gas on Earth: an updated review*, for Petrobras – CENPES, March 2021
- *Global CO₂ and CH₄ Earth's degassing and its atmospheric impact*, Deutsches Zentrum für Luft- und Raumfahrt DLR, Wessling, December 2019
- *Geological methane emissions to the atmosphere*, University of Oxford, Earth Sci. Dep., November 2017
- *Methane on Mars*, “plenary invited talk” at SETI institute, Mountain View, California, September 2016
- *Abiotic methane in continental serpentization sites*, “Plenary talk” at 15th Intern. Symposium on *Water–Rock Interaction* (WRI-15), Evora, October 2016

Appointments

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| 2023-present | Responsible of Sub-Task “Scientific research roadmap” and Italian representative for the Task “Natural Hydrogen” of the International Energy Agency, Technology Collaboration Programme. |
| 2016- present | Guest Investigator for ExoMars 2016 mission (European Space Agency) |
| 2018-2019 | Associate Researcher at Istituto Nazionale di Astrofisica (INAF) |
| 2016 | Visiting researcher at NASA Ames (Moffett Field, CA), August-October 2016. |
| 2010-2013 | INGV Representative of Specific Object. 4.5 “Studies on natural degassing and petroleum gas” |
| 2009-present | Associate Professor at the Faculty of Environmental Science and Engineering, Babes-Bolyai University (Cluj-Napoca, Romania). |
| 2009-2011 | Member of the “Best Paper Committee” of Organic Geochemistry Division of the Geochemical Society (Chair of the commission in 2011). |

- 2008 Responsible and point of inquire for “Geological sources of methane” for the EMEP/CORINAIR Inventory Guidebook, edition 2009 (European Environmental Agency)
- 1999-present Member of the Scientific Committee of “International Conference on Gas Geochemistry”.
- 1996-2000 Italian representative of IGCP-404 "Terrestrial Carbon in the past 125 ka" IGCP-UNESCO.

Coordination of projects and scientific activities

2019-2022 Coordinator and scientific responsible of Petrobras project “Igneous rocks as source and sink of abiotic hydrocarbons and CO₂”.

2015-2016 Coordinator and representative of INGV activity “A7 - Exploration Geophysics”.

2014-2016 Coordinator and scientific responsible of project GCI-Petrobras “Hydrocarbons and CO₂ evolution in mafic and ultramafic rocks”

2012-2014 Coordinator and scientific responsible of Petrobras project contract “Low temperature methanation in geologic environments”.

2011-2013 Head of Research Unit INGV for the national PRIN (MIUR) project “Geologic emissions of hydrocarbons to the atmosphere in Italy”. Ministry of Education, University and Research.

2005-2007. Local coordinator of Research Unit “Methane degassing” for the Italian project “Diffuse degassing in Italy”, funded by GNV-Civil Protection

2005-2007. Project Coordinator for Scientific and Technological Cooperation between Italy and Japan: “Seafloor observatories for environmental monitoring”

2004-2006. Coordinator of N.A.T.O. CLG (Collaborative Linkage Grant) project “Groundwater resource impact from radioactive deposits generated during geofluids exploitation”.

2003-2005. Project Coordinator for Scientific and Technological Cooperation between Italy and Mexico: “Greenhouse gas emissions and soil radioactivity”

2001-2003. Coordinator of N.A.T.O. CLG (Collaborative Linkage Grant) project “Emission of methane from mud volcanoes of Romania and Italy”.

2001-2002. Project Coordinator for Scientific and Technological Cooperation between Italy and Romania: “Methane emission from mud volcanoes in Italy and Romania”

Project Principal investigator of Local Project manager

2022-2024 Progetto UNEP (United Nation Environmental Protection), Global Analysis of Methane Emissions from Abandoned Oil and Gas Wells (coordinated by McGill University, Canada).

2013-2017 Deep Carbon Observatory (DCO, Deep Energy) projects: “Reduced carbon in Earth: Origin and distribution of abiotic hydrocarbons” e “Reduced carbon in Earth: origins, forms, quantities and movements”. Coordinated by The Ohio State University and University of California, for Sloan Foundation.

2011-2013 Head of the INGV Research Unit for national PRIN (MIUR) project “Emissioni geologiche di idrocarburi in atmosfera”.

2011-2013 Project “Geogenic emissions of greenhouse gases from geothermal and petroleum systems – application to Romania”, PN-II-ID-PCE-2011-3-0537 , funded by CNCS Romania (National Research Council)

2009-2012. EU Project “Hypox: In situ monitoring of oxygen depletion in hypoxic ecosystems of coastal and open seas, and land-locked water bodies. FP7-ENVIRONMENT, <https://cordis.europa.eu/article/id/90958-oxygen-depletion-in-aquatic-ecosystems>

2005-2007 EU Project NATAIR (DG RTD contract n. 513699), with coordination of the activity for the evaluation of geological methane emission in Europe.

2002-2004 EU project "ASSEM" (Array of sensors for long-term seabed monitoring of geohazards), FP5-EESD, <https://cordis.europa.eu/project/id/EVK3-CT-2001-00051>

2001-2005 Responsible of Working Group 4 "Geological Processes" of the project IGCP-459 "Carbon Cycle and Hydrology in the Paleo Terrestrial Environments", IGCP-UNESCO

1996-2000 IGCP-404 Project "Carbon cycle", IGCP-UNESCO

Participation in projects as Partner

2020-2023 Project HFRI (Hellenic Foundation for Research and Innovation) "BLUEL: Seabed fluid flows and their implications to earthquakes and global climate", coordinated by Patras University (Grecia).

2020-2021 Project INGV "Pianeta Dinamico", Task A3.1 "Ricerche e Metodologie integrate per lo studio e la stima di emissioni di gas da sorgenti geologiche e antropiche, in atmosfera, superficie e sottosuolo".

2011-2013 "Invited partner" for NSF (US National Science Foundation) project "Shale gas: geochemical and physical constraints on genesis, storage, and producibility", coordinated by Indiana University.

2011-2012 ESA (European Space Agency) project "Interdisciplinary Study of Methane on Mars"

2010-2012 Project "Evaluation of Flux and Environmental Implication of Methane Microseepage from the Yakela Condensed Gas Field in the Tarim Basin, Xinjiang, China". China National Science Fundation, coordinated by Hangzhou Dianzi University.

2009-2010 EU Project MARMARA-ESONET, Demo Mission. FP6-SUSTDEV.

2007-2010 FLUX project (Methane fluxes at the lithosphere-atmosphere interface in hydrocarbon-prone areas - implications for the greenhouse gases atmospheric budget), Romanian National Authority for Research (ANCS), coordinated by Babes-Bolyai University, Cluj-Napoca (Romania).

2006-2010 EU Project KM3NET (KM3 Neutrino Telescope).

2006-2007 MESC Project (Mud-Volcanoes Ecosystem Study), PRIN 2006-2007, MIUR.

2005-2007 PYTHAGORAS II Project, Ministry of Education, Greece. Coordinated by Patras University.

2003-2005 APLABES Project "Deep-sea coral banks on the Apulian Plateau", FIRB, MIUR.

2001-2005 UNESCO IGCP-459 Project "Carbon Cycle and Hydrology in the Paleo Terrestrial Environments"

Awards

- *Socius Excellentia Meritorum* (Award of Merit for Excellence) from Babes-Bolyai University (Dec. 2022)
- Babes Bolyai University Award for excellence in international research, 1 March 2021.
- Senior International Scientist of Chinese Academy of Sciences, 2010

Collaborations with research centers and universities

- Caltech, Pasadena (methane on Mars)
- European Space Agency (methane on Mars)
- Istituto Nazionale di Astrofisica (INAF) (methane on Mars)
- Planetary Space Institute (Arizona) (methane on Mars)
- Oxford University (submarine gas emissions)

- Stanford University (geological methane emission to the atmosphere)
- NOAA (geological methane emission to the atmosphere)
- Hangzhou University (methane emission in China)
- Oslo University (methane emission in Indonesia)
- Colorado School of Mines (natural gas origin)
- EDF, Environment Defense Fund (geological methane emission to the atmosphere)
- University of Utrecht (isotopic analyses)
- University of Victoria (abiotic methane origin)
- University of Malaga (abiotic methane origin)
- University of Patras (methane emissions in Grecia and abiotic methane origin)
- University of Lisbon (abiotic methane origin)
- University of Indiana (methane origin and emission in Western USA)
- University of Toronto (abiotic methane origin)
- University of Bern (methane radiocarbon)
- Petrochina (methane origin in China)
- Babes Bolyai University, Faculty of Envir. Sci. Engin., Cluj-Napoca (methane origin and emission in Romania)
- Tokyo Institute of Technology (abiotic methane origin and laboratory experiments)

Development of data-bases

- Coordinator for the development of national data-base HYSED-IT (onshore hydrocarbon seeps database; MIUR/PRIN2009 project "Hydrocarbon emissions from geological sources to the atmosphere in Italy", <http://hydrocarbonseeps.blogspot.it/p/hysed.html>).

- Coordinator for the development of the data-base GLOBAL SEEPS, published on *Earth System Science Data e Nature Communication* (Etiope et al. 2019; Ciotoli et al. 2020).

- Development of global petroleum seep datasets:

Etiope G. (2009). *A global dataset of onshore gas and oil seeps: a new tool for hydrocarbon exploration*. *Oil & Gas Business Journal*, October 2009, <http://www.oqbus.ru/eng/>, Ufa State Petroleum Technological University.

Etiope G. (2009). *GLOGOS, A New Global Onshore Gas-Oil Seeps Dataset*. *Search and Discovery*, Article #70071, 28 September 2009, AAPG online journal, <http://www.searchanddiscovery.net>.

- Global dataset on chemical composition of natural gas:

Sherwood, O., Schwietzke, S., Arling, V., **Etiope, G.** (2016). *Global Inventory of Fossil and Non-fossil Methane $\delta^{13}\text{C}$ Source Signature Measurements for Improved Atmospheric Modeling* (NOAA/ESRL/GMD). <http://doi.org/10.15138/G37P4D>

Teaching experience

2005 -present Master courses on "Global Climate Change", "Environmental impact of mineral and energy resources extraction" and "Energy resources - Petroleum" as Associate Professor at the Faculty of Environmental Science and Engineering, Babes-Bolyai University (Cluj-Napoca).

Editorial activity

From 2021	Associate Editor of Applied Geochemistry (Elsevier)
2016-2017	Guest Editor of Geosciences (MDPI) special issue "Natural gas origin, migration, alteration and seepage"
2016	Editor of Geofluids (Wiley)
2009-2015	Member of the Editorial Board of "Geofluids" (Wiley)
2010	Handling Editor for the "Geofluids" special issue: Gas geochemistry, Vol 10, Issue 4, November 2010
2009-2013	Associate editor of "Annals of Geophysics" (INGV)
2008-2009	Guest Editor of a special issue of "J. Asian and Earth Sciences" (2013): "Gas/Fluid Geochemistry"
2003-2004	Guest Editor of a special issue of "Environmental Geology" (Springer), Vol 46, N. 8 (November 2004): GEM- Geologic Emissions of Methane from lands and seafloor: mud volcanoes and observing systems.

Reviewer

US-EPA (Environmental Protection Agency) report "Methane and Nitrous Oxide Emissions from Natural Sources"; Nature journals (NPG-Nature Springer; *Nature Communications*, *Nature Geoscience*, *Scientific Reports*) AGU journals (*Journal of Geophysical Research*, *Geophysical Research Letters*, G3); GSA (*Geology*), Mineralogical Society of America (*Elements*), Elsevier (*J. Volcan. Geoth. Res.*, *Earth Plan. Sci. Lett.*, *Atmospheric Envir.*, *Geothermics*, *Geoch. Cosm. Acta.*, *Appl.*

Geochem., Chem. Geology., Earth Sci-Rev., Continental Shelf Res., STOTEN), Springer (*Environmental Geology, Applied Radiation and Isotopes*), Geoscience World (*Mineralogical Magazine*), Chinese Geoscience Union (*Terrestrial, Atmospheric and Oceanic sciences TAO*), Wiley (*Geofluids*), Un.Calif.Press (*Elementa*); Mineralogical Magazine (Geoscience World), TAO (Chinese Geoscience Union), Geofluids (Wiley).

PUBLICATIONS

Peer-reviewed articles	176
Open-access, online journals or databases	7
International proceedings and special volumes	32
Scientific reports in special volumes	6
National journals and proceedings	16
Books	1

Total: 238

H index (August 2023): 49 (Web of Science); 51 (Scopus); 62 (Google Scholar)

Books

Etiopio G. (2015). Natural Gas Seepage. The Earth's hydrocarbon degassing. Springer, Switzerland, pp. 199, doi: 10.1007/978-3-319-14601-0

Peer-reviewed publications (n. 176)

2023

- Ojeda, L., **Etiopio, G.**, Jiménez-Gavilán, P., Martonos, I.M., Röckmann, T., Popa, M.E., Sivan, M., Castro Gamez A.F., Vadillo, I. (2023). Combining methane clumped and bulk isotopes, temporal variations in molecular and isotopic composition, and hydrochemical and geological proxies to understand methane's origin in the Ronda peridotite massifs (Spain). *Chemical Geology*, 121799, <https://doi.org/10.1016/j.chemgeo.2023.121799>
- Christodoulou, D., Papatheodorou, G., Geraga, M., **Etiopio, G.**, Giannopoulos, N., Kokkalas, S., Dimas, X., Fakiris, E., Sergiou, S., Georgiou, N. et al. (2023). Geophysical and geochemical exploration of the pockmark field in the Gulf of Patras: new insights on formation, growth and activity. *Appl. Sci.*, 13, 10449. <https://doi.org/10.3390/app131810449>
- Brož, P., Oehler, D., Mazzini, A., Hauber, E., Komatsu, G., **Etiopio, G.**, Cuřín, V. (2023). An overview of sedimentary volcanism on Mars. *Earth Surface Dynamics*, 11, 633-661, <https://doi.org/10.5194/esurf-11-633-2023> **IF: 3.4**
- Petrescu, A.M.R., Qiu, C., McGrath, M.J., Peylin, P., Peters, G.P., Ciais, P., Thompson, R.L., Tsuruta, A., Brunner, D., Kuhnert, M., Matthews, B., Palmer, P.I., Tarasova, O., Regnier, P., Lauerwald, R., Bastviken, D., Höglund-Isaksson, L., Winiwarter, W., **Etiopio, G.**, Aalto, T., Balsamo, G., Bastrov, V., Berchet, A., Brockmann, P., Ciotoli, G., Conchedda, G., Crippa, M., Dentener, F., Groot Zwaafink, C.D., Guizzardi, D., Günther, D., Haussaire, J.-M., Houweling, S., Janssens-Maenhout, G., Kouyate, M., Leip, A., Leppänen, A., Lugato, E., Maisonnier, M., Manning, A.J., Markkanen, T., McNorton, J., Muntean, M., Oreggioni, G.D., Patra, P.K., Perugini, L., Pison, I., Raivonen, M.T., Saunois, M., Segers, A.J., Smith, P., Solazzo, E., Tian, H., Tubiello, F.N., Vesala, T., Wilson, C., Zaehle, S. (2023). The consolidated European synthesis of CH₄ and N₂O emissions for EU27 and UK: 1990–2020. *Earth Syst. Sci. Data*, 15, 1197-1268, <https://doi.org/10.5194/essd-15-1197-2023>. **IF: 11.3**
- Etiopio G.** (2023). Massive release of natural hydrogen from a geological seep (Chimaera, Turkey): gas

advection as a proxy of subsurface gas migration and pressurised accumulations. *Int. J. Hydrogen Energy*, 48, 9172-9184, <https://doi.org/10.1016/j.ijhydene.2022.12.025> IF: 7.14

6. Foschi M., **Etiopio G.**, Cartwright J.A. (2023). Seismic evidence of extensive microbial gas migration and trapping in submarine marine hydrates (Rakhine Basin, Bay of Bengal). *Mar. Petrol. Geol.*, 149, 106100, <https://doi.org/10.1016/j.marpetgeo.2023.106100>. IF: 5.36

2022

7. **Etiopio G.**, Oze C. (2022). Microbial vs abiotic origin of methane in continental serpentized ultramafic rocks: a critical review and the need of a holistic approach. *App. Geochem.*, 143, 105373, <https://doi.org/10.1016/j.apgeochem.2022.105373> IF: 3.84

8. Menoud M., van der Veen C., Maazallahi H., Hensen A., Velzeboer Il., van den Bulk P., Delre A., Korben P., Schwietzke S., Ardelean M., Calcan A., **Etiopio G.**, Baciuc C., Scheutz C., Schmidt M., Röckmann T. (2022). CH₄ isotopic signatures of emissions from oil and gas extraction sites in Romania. *Elem. Sci. Anth.*, 10 (1), <https://doi.org/10.1525/elementa.2021.000092>. IF: 6.05

2021

9. Thornton B.F., **Etiopio G.**, Schwietzke S., Milkov A.V., Klusman R.W., Judd A., Oehler D.Z. (2021). Conflicting estimates of natural geologic methane emissions. *Elem. Sci. Anth.*, 9, 1, doi:<https://doi.org/10.1525/elementa.2021.00031>. IF: 6.05

10. Oehler D., **Etiopio G.** (2021). Methane on Mars: subsurface sourcing and conflicting atmospheric measurements. In: *Mars Geological Enigmas: From the Late Noachian Epoch to the Present Day*, 1st Edition. Soare R., Conway S., Williams J.P., Oehler D. (Editors), Elsevier.

11. Lan X., Basu S., Schwietzke S., Bruhwiler L.M.P., Dlugokencky E.J., Michel S.E., Sherwood O.A., Tans P.P., Thoning K., **Etiopio G.**, Zhuang Q., Liu L., Oh Y., Miller J., Pétron G., Vaughn B.H., Crippa M. (2021). Improved constraints on global methane emissions and sinks using $\delta^{13}\text{C-CH}_4$. *Global Biogeochemical Cycles*, in press. <https://doi.org/10.1029/2021GB007000>. IF: 5.7

12. Zhao Y., Wang G., **Etiopio G.**, Wang Y., Zhu Z., Wang C., Chen X., Tang J. (2021). Seasonal variation of methane microseepage in the Dawanqi oilfield (China): a possible climatic control. *J. Geoph. Res. Atm.*, 126, <https://doi.org/10.1029/2021JD034637>. IF: 4.26

13. Mazzini A., Sciarra A., **Etiopio G.**, Sadavarte P., Houweling S., Pandey S., Husein A. (2021). Relevant methane emission to the atmosphere from a geological gas manifestation. *Scientific Reports*, 11, 4138, <https://doi.org/10.1038/s41598-021-83369-9>. IF: 5.13

14. Rotiroti M., Bonomi T., Sacchi E., McArthur J.M., Jakobsen R., Sciarra A., **Etiopio G.**, Zanotti C., Nava V., Fumagalli L., Leoni L. (2021). Overlapping redox zones control arsenic pollution in Pleistocene multi-layer aquifers, the Po Plain (Italy). *Sci. Total Environ.*, 758, 143646, <https://doi.org/10.1016/j.scitotenv.2020.143646> IF: 7.96

2020

15. Foschi M., Cartwright J.A., MacMinn C.W., **Etiopio G.** (2020). Evidence for massive emission of methane from a deep-water gas field during the Pliocene. *Proc. Nat. Acad. Sci.*, October 2020, 202001904, <https://doi.org/10.1073/pnas.2001904117> IF: 11.2

16. Saunoy M., Stavert A. R., Poulter B., Bousquet P., Canadell J. G., Jackson R. B., Raymond P. A., Dlugokencky E. J., Houweling S., Patra P. K., Ciais P., Arora V. K., Bastviken D., Bergamaschi P., Blake,

D. R., Brailsford, G., Bruhwiler, L., Carlson, K. M., Carrol, M., Castaldi, S., Chandra, N., Crevoisier, C., Crill, P. M., Covey, K., Curry, C. L., **Etiopie, G.**, Frankenberg, C., Gedney, N., Hegglin, M. I., Höglund-Isaksson, L., Hugelius, G., Ishizawa, M., Ito, A., Janssens-Maenhout, G., Jensen, K. M., Joos, F., Kleinen, T., Krummel, P. B., Langenfelds, R. L., Laruelle, G. G., Liu, L., Machida, T., Maksyutov, S., McDonald, K. C., McNorton, J., Miller, P. A., Melton, J. R., Morino, I., Müller, J., Murgia-Flores, F., Naik, V., Niwa, Y., Noce, S., O'Doherty, S., Parker, R. J., Peng, C., Peng, S., Peters, G. P., Prigent, C., Prinn, R., Ramonet, M., Regnier, P., Riley, W. J., Rosentreter, J. A., Segers, A., Simpson, I. J., Shi, H., Smith, S. J., Steele, L. P., Thornton, B. F., Tian, H., Tohjima, Y., Tubiello, F. N., Tsuruta, A., Viovy, N., Voulgarakis, A., Weber, T. S., van Weele, M., van der Werf, G. R., Weiss, R. F., Worthy, D., Wunch, D., Yin, Y., Yoshida, Y., Zhang, W., Zhang, Z., Zhao, Y., Zheng, B., Zhu, Q., Zhu, Q., and Zhuang, Q. (2020). The Global Methane Budget 2000–2017. *Earth Syst. Sci. Data*, 12, 1-63, <https://doi.org/10.5194/essd-12-1561-2020>. IF: 11.3

17.Ciotoli G. Procesi M., **Etiopie G.**, Fracassi U., Ventura G. (2020). Influence of tectonics on global scale distribution of geological methane emissions. *Nature Comm.*, 11, 2305, <https://doi.org/10.1038/s41467-020-16229-1>. IF: 15.8

18.Kordella S., Ciotoli G., Dimas X., Papatheodorou G., **Etiopie G.** (2020). Increased methane emission from natural gas seepage at Katakolo Harbour (Western Greece). *Applied Geochemistry*, 116, 104578, <https://doi.org/10.1016/j.apgeochem.2020.104578> - IF: 3.84

19.Milkov A.V., Schwietzke S., Allen G., Sherwood O.A., **Etiopie G.** (2020). Using global isotopic data to constrain the role of shale gas production in recent increases in atmospheric methane. *Scientific Reports*, 10, 4199, <https://doi.org/10.1038/s41598-020-61035-w>. IF: 5.13

20.Milkov A.V., Mohinudeen F., **Etiopie G.** (2020). Geochemistry of shale gases from around the world: Composition, origins, isotope reversals and rollovers, and implications for the exploration of shale plays. *Org. Geochem.*, 143, 103997, <https://doi.org/10.1016/j.orggeochem.2020.103997>. IF: 3.6

2019

21.**Etiopie G.**, Schwietzke S. (2019). Global geological methane emissions: an update of top-down and bottom-up estimates. *Elem. Sci. Anth.*, 7, 47, <http://doi.org/10.1525/elementa.383>. IF: 6.05

22.De Melo Portella Y., Zaccarini F., **Etiopie G.** (2019). First detection of methane within chromitites of an Archean-Paleoproterozoic greenstone belt in Brazil. *Minerals*, 9, 256, doi:10.3390/min9050256. IF: 2.64

23.Ojeda L., Vadillo I., **Etiopie G.**, Benavente J., Liñan C., del Rosal Y., Tapia S.T., Moriñigo M.A., Carrasco F. (2019). Methane sources and sinks in karst systems: the Nerja cave and its vadose environment (Spain). *Geochim. Cosmochim. Acta*, 259, 302-315, <https://doi.org/10.1016/j.gca.2019.06.011>. IF: 5.01

24.Vandaele A.C., Korablev O., Daerden F., Aoki S., Thomas I.R., Altieri F., ... , NOMAD Sci Team (**G. Etiopie**), ACS Sci Team (2019). Martian dust storm impact on atmospheric H₂O and D/H observed by ExoMars Trace Gas Orbiter. *Nature*, 568, E1-E1, doi: 10.1038/s41586-019-1097-3. IF: 54.6

25.Korablev O., Vandaele A.C., Montmessin F., Fedorova A.A., Trokhimovskiy A., Forget F., Lefèvre F., Daerden F., Thomas I.R., Trompet L., Erwin J.T., Aoki A., Robert S., Neary L., Viscardy S., Grigoriev A.V., Ignatiev N.I., Shakun A., Patrakeev A., Belyaev D.A., Bertaux J.L., Olsen K.S., Baggio L., Alday J., Ivanov Y.S., Ristic B., Mason J., Willame Y., Depiesse C., Hetey L., Berkenbosch S., Clairquin R., Queirolo C., Beeckman B., Neefs E., Patel M.R., Bellucci G., Lopez-Moreno J.J., Wilson C.F., **Etiopie G.**, Zelenyi L., Svedhem H., Vago J.L. and the ACS and NOMAD Team (2019). No detection of methane on Mars from early ExoMars Trace Gas Orbiter observations. *Nature*, 569, E2-E2, <https://doi.org/10.1038/s41586-019-1096-4>. IF: 54.6

26.Procesi M. Ciotoli G., Mazzini A., **Etiopie G.** (2019). Sediment-Hosted Geothermal Systems: review and first global mapping. *Earth Sci. Rev.*, 192, 529-544, <https://doi.org/10.1016/j.earscirev.2019.03.020>. IF: 12.41

27. Giuranna M., Viscardy S., Daerden F., Neary L., **Etioppe G.**, Oehler D.Z., Formisano V., Aronica A., Wolkenberg P., Aoki S., Cardesin-Moinelo A., Marin-Yaseli de la Parra J., Merritt D., Amoroso M. (2019). Independent confirmation of a methane spike on Mars and a source region east of Gale Crater. *Nature Geosci.*, 12, 326-332, <https://doi.org/10.1038/s41561-019-0331-9>. IF: 17.93

28. **Etioppe G.**, Oehler D.Z. (2019). Methane spikes, background seasonality and non-detections on Mars: a geological perspective. *Planetary and Space Science*, 168, 52-61, <https://doi.org/10.1016/j.pss.2019.02.001>. IF: 2.03

29. **Etioppe G.**, Whiticar M.J. (2019). Abiotic methane in continental ultramafic rock systems: Towards a genetic model. *Applied Geochemistry*, 102, 139-152, <https://doi.org/10.1016/j.apgeochem.2019.01.012>. IF: 3.84

30. Stamenković V., Beegle L.W., Zacny K., Arumugam D.D., Baglioni P., Barba N., Baross J., Bell M.S., Bhartia R., Blank J.G., Boston P.J., Breuer D., Brinckerhoff W., Burgin M.S., Cooper I., Cormarkovic V., Davila A., Davis R.M., Edwards C., **Etioppe G.**, Fischer W.W., Glavin D.P., Grimm R.E., Inagaki F., Komarek T., Malaska M., Michalski J., Ménez B., Mischna M., Moser D., Mustard J., Onstott T.C., Orphan V.J., Osburn M.R., Plaut J., Plesa A.-C., Putzig N., Rogers K.L., Rothschild L., Russell M., Sapers H., Sherwood Lollar B., Spohn T., Tarnas J.D., Tuite M., Viola D., Ward L.M., Wilcox B., Woolley R. (2019). The next frontier for planetary and human exploration. *Nature Astron.*, 3, 116-120. <https://doi.org/10.1038/s41550-018-0676-9>. IF: 13.43

31. **Etioppe G.**, Ciotoli, G., Schwietzke, S., Schoell, M. (2019). Gridded maps of geological methane emissions and their isotopic signature. *Earth Syst. Sci. Data*, 11, 1-22, <https://doi.org/10.5194/essd-11-1-2019>. IF: 11.3

32. McIntosh J., Hendry M.J., Ballentine C.J., Haszeldine R.S., Mayer B., **Etioppe G.**, Elsner M., Darrah T.H., Prinzhofner A., Osborn S., Stalker L., Kuloyo O., Lu Z., Martini A., Sherwood Lollar B. (2019). A critical review of state-of-the-art and emerging approaches to identify fracking-derived gases and associated contaminants in aquifers. *Environ. Sci. Technol.*, 53, 1063-1077, doi: 10.1021/acs.est.8b05807. IF: 9.03

33. Sciarra A., Saroni, A., **Etioppe G.**, Coltorti, M., Mazzarini, F., Lott, C., Grassa F., Italiano, F. (2019). Shallow submarine seep of abiotic methane from serpentinized peridotite off the Island of Elba, Italy. *App. Geochem.*, 100, 1-7. IF: 3.84

2018

34. Savini A., Pinson S., Bistacchi A., **Etioppe G.**, Holland C. (2018). Imaging shallow gas migration pathways in a mud-volcano province using an Autonomous Underwater Vehicle (Malta Plateau, Mediterranean Sea). *Near Surf. Geophys.*, 1-19, doi: 10.1002/nsg.12017. IF: 1.15

35. Milkov A.V., **Etioppe G.** (2018). Revised genetic diagrams for natural gases based on a global dataset of >20,000 samples. *Org. Geochem.*, 125, 109-120, <https://doi.org/10.1016/j.orggeochem.2018.09.002>. IF: 3.6

36. Marques J.M., **Etioppe G.**, Neves M.O., Carreira P.M., Rocha C., Vance S.D., Christensen L., Miller A.Z., Suzuki S. (2018). Linking serpentinization, hyperalkaline mineral waters and abiotic methane production in continental peridotites: an integrated hydrogeological-bio-geochemical model from the Cabeço de Vide CH₄-rich aquifer (Portugal). *Applied Geochemistry*, 96, 287-301. <https://doi.org/10.1016/j.apgeochem.2018.07.011>. IF: 3.84

37. Yung, Y.L., Chen, P., Nealson, K., Atreya, S., Beckett, P., Blank, J., Ehlmann, B., Eiler, J., **Etioppe G.**, Ferry, J.G., Forget, F., Gao, P., Hu, R., Kleinböhl, A., Klusman, R., Lefèvre, F., Miller, C., Mischna, M., Mumma, M., Newman, S., Oehler, D., Okumura, M., Oremland, R., Orphan, V., Popa, R., Russell, M., Shen, L., Lollar, B.S., Stamenkovic, V., Staehle, R., Stolper, D., Templeton, A., Vandaele, A.C., Viscardy, S.,

Webster, C., Wennberg, P.O., Wong, M., Worden, J. (2018). Methane on Mars and Habitability: Challenges and Responses. *Astrobiology*, 18, doi: 10.1089/ast.2018.1917. **IF: 4.33**

38. Schimmelmann A., Ensminger S.A., Drobnik A., Mastalerz M., **Etiopie G.**, Jacobi R.D., Frankenberg C. (2018). Natural geological seepage of hydrocarbon gas in the Appalachian Basin and Midwest USA in relation to shale tectonic fracturing and past industrial hydrocarbon production. *Sci. Tot. Environ.*, 644, 982-993. doi.org/10.1016/j.scitotenv.2018.06.374. **IF: 7.96**

39. **Etiopie G.**, Ifandi E., Nazzari M., Procesi M., Tsikouras B., Ventura G., Steele A., Tardini R., Szatmari P. (2018). Widespread abiotic methane in chromitites. *Scientific Reports*, 8, 8728, doi:10.1038/s41598-018-27082-0. **IF: 5.13**

40. **Etiopie G.** (2018). Understanding the origin of methane on Mars through isotopic and molecular data from the ExoMars orbiter. *Planet. Space Sci.*, 159, 93-96. doi:10.1016/j.pss.2018.04.020. **IF: 2.03**

41. Trasatti E., Marra F., Polcari M., **Etiopie G.**, Ciotoli G., Darrah T.H., Tedesco D., Stramondo S., Florindo F., Ventura G. (2018). Coeval uplift and subsidence reveal magma recharging near Rome (Italy). *Geochem. Geophys. Geosys.*, doi:10.1029/2017GC007303. **IF: 3.62**

42. Géli L., Henry P., Grall C., Tary J.-B., Lomax A., Batsi E., Riboulot V., Cros E., Gürbüz C., Isik S., Sengör A.M.C., Le Pichon X., Ruffine L., Dupré S., Thomas Y., Kalafat D., Bayrakci G., Coutellier Q., Regnier T., Westbrook G., Saritas H., Cifçi G., Cagatay N., Ozeren S., Görür N., Tryon M., Bohnhoff M., Gasperini L., Klingelhoefer F., Scalabrin C., Augustin J.-M., Embriaco D., Marinaro G., Frugoni F., Monna S., **Etiopie G.**, Favali P., Bécél A. (2018). Gas and seismicity within the Istanbul seismic gap. *Scientific Reports*, 8, doi:10.1038/s41598-018-23536-7. **IF: 5.13**

43. Webster K.D., Drobnik A., **Etiopie G.**, Mastalerz M., Sauer P.E., Schimmelmann A. (2018). Subterranean karst environments as a global sink for atmospheric methane. *Earth Planet. Sci. Lett.*, 485, 9-18. <https://doi.org/10.1016/j.epsl.2017.12.025> **IF: 5.25**

44. Shuai Y. **Etiopie G.**, Zhang S., Douglas P.M.J., Huang L., Eiler J.M. (2018). Methane clumped isotopes in the Songliao Basin (China): new insights into abiotic vs. biotic hydrocarbon formation. *Earth Planet. Sci. Lett.*, 482, 213-221. <https://doi.org/10.1016/j.epsl.2017.10.057> **IF: 5.25**

45. Baciuc C., Ionescu A., **Etiopie G.** (2018). Hydrocarbon seeps in Romania: gas origin and release to the atmosphere. *Mar. Petrol. Geol.*, 89, 130-143. <https://doi.org/10.1016/j.marpetgeo.2017.06.015> **IF: 4.35**

46. Zheng G., Xu W., **Etiopie G.**, Ma X., Lian S., Fan Q., Sajjad W., Li Y. (2018). Hydrocarbon seeps in petroliferous basins in China: a first inventory. *J. Asian Earth Sci.*, 151, 269-284. <https://doi.org/10.1016/j.jseaes.2017.10.037> **IF: 3.45**

2017

47. **Etiopie G.**, Doezema L., Pacheco C. (2017). Emission of methane and heavier alkanes from the La Brea Tar Pits seepage area, Los Angeles. *J. Geophys. Res. Atm.*, 122, 12,008-12,019. doi: 10.1002/2017JD027675 **IF: 4.26**

48. Douglas P.M.J., Stolper D.A., Eiler J.M., Sessions A.L., Lawson M., Shuai Y., Bishop A., Podlaha O.G., Ferreira A.A., Santos Neto E.V., Niemann M., Steen A.S., Huang L., Chimiak L., Valentine D.L., Fiebig J., Luhmann A.J., Seyfried Jr. W.E., **Etiopie G.**, Schoell M., Inskeep W.P., Moran J.J., Kitchen N. (2017). Methane clumped isotopes: progress and potential for a new isotopic tracer. *Org. Geochem.*, 113, 262-282. <http://dx.doi.org/10.1016/j.orggeochem.2017.07.016>. **IF: 3.6**

49. **Etiopie G.**, Samardžić N., Grassa F., Hrvatović H., Miošić N., Skopljak F. (2017). Methane and hydrogen in hyperalkaline groundwaters of the serpentinized Dinaride ophiolite belt, Bosnia and Herzegovina. *Applied*

50. **Etioppe G.** (2017). Natural Gas. *Encyclopedia of Geochemistry*, Earth Sciences Series, Springer, pp.1-5, [doi:10.1007/978-3-319-39193-9_152-1](https://doi.org/10.1007/978-3-319-39193-9_152-1).

51. Oehler D., **Etioppe G.** (2017). Methane seepage on Mars: where to look and why. *Astrobiology*, 17, 1233-1264. <http://dx.doi.org/10.1089/ast.2017.1657>. IF: 4.33

52. Ionescu A., Burrato P., Baciuc C., **Etioppe G.**, Kis B.M. (2017). Inventory of Onshore Hydrocarbon Seeps in Romania (HYSED-RO Database). *Geosciences*, 7(2), 39, doi:10.3390/geosciences7020039

53. Sherwood O.A., Schwietzke S., Arling V.A., **Etioppe G.** (2017). Global inventory of gas geochemistry data from fossil fuel, microbial and biomass burning sources, version 2017. *Earth Syst. Sci. Data*, 9, 639-656. <https://doi.org/10.5194/essd-9-639-2017>. IF: 11.3

54. Saunoy, M., Bousquet, P., Poulter, B., Peregón, A., Ciais, P., Canadell, J. G., Dlugokencky, E. J., **Etioppe G.**, Bastviken, D., Houweling, S., Janssens-Maenhout, G., Tubiello, F. N., Castaldi, S., Jackson, R. B., Alexe, M., Arora, V. K., Beerling, D. J., Bergamaschi, P., Blake, D. R., Brailsford, G., Bruhwiler, L., Crevoisier, C., Crill, P., Covey, K., Frankenberg, C., Gedney, N., Höglund-Isaksson, L., Ishizawa, M., Ito, A., Joos, F., Kim, H.-S., Kleinen, T., Krummel, P., Lamarque, J.-F., Langenfelds, R., Locatelli, R., Machida, T., Maksyutov, S., Melton, J. R., Morino, I., Naik, V., O'Doherty, S., Parmentier, F.-J. W., Patra, P. K., Peng, C., Peng, S., Peters, G. P., Pison, I., Prinn, R., Ramonet, M., Riley, W. J., Saito, M., Santini, M., Schroeder, R., Simpson, I. J., Spahni, R., Takizawa, A., Thornton, B. F., Tian, H., Tohjima, Y., Viovy, N., Voulgarakis, A., Weiss, R., Wilton, D. J., Wiltshire, A., Worthy, D., Wunch, D., Xu, X., Yoshida, Y., Zhang, B., Zhang, Z., and Zhu, Q. (2017). Variability and quasi-decadal changes in the methane budget over the period 2000–2012. *Atmos. Chem. Phys.*, doi:10.5194/acp-2017-296. IF: 6.13

55. Tang J., Xu Y., Wang G., **Etioppe G.**, Han W., Yao Z., Huang J. (2017). Microseepage of methane to the atmosphere from the Dawanqi oil-gas field, Tarim Basin, China. *J. Geoph. Res. Atmos.*, 122, 4353-4363, doi: 10.1002/2016JD026385. IF: 4.26

56. Mazzini A., **Etioppe G.** (2017). Mud volcanism: an updated review. *Earth Sci. Rev.*, 168, 81-112. <http://dx.doi.org/10.1016/j.earscirev.2017.03.001>. IF: 12.41

57. **Etioppe G.** (2017). Abiotic methane in continental serpentinization sites: an overview. *Procedia Earth Plan. Sci.*, 17, 9-12. doi: 10.1016/j.proeps.2016.12.006.

58. Young E.D., Kohl I.E., Sherwood Lollar B., **Etioppe G.**, Rumble III D., Li S., Haghnegahdar M.A., Schauble E.A., McCain K.A., Foustoukos D.I., Sutcliffe C., Warr O., Ballentine C.J., Onstott T.C., Hosgormez H., Neubeck A., Marques J.M., Pérez-Rodríguez I., Rowe A.R., LaRowe D.E., Magnabosco C., Yeung L.Y., Ash J.L., Bryndzia L.T. (2017). The relative abundances of resolved $^{12}\text{CH}_2\text{D}_2$ and $^{13}\text{CH}_3\text{D}$ and mechanisms controlling isotopic bond ordering in abiotic and biotic methane gases. *Geoch. Cosmochim. Acta*, 203, 235-264. <http://dx.doi.org/10.1016/j.gca.2016.12.041> IF: 5.01

59. Marques J.M., Neves M.O., Miller A.Z., Rocha C., Vance S., Christensen L., **Etioppe G.**, Carreira P.M., Suzuki S. (2017). Water-rock interaction ascribed to hyperalkaline mineral waters in the Cabeço de Vide serpentinized ultramafic intrusive massif (Central Portugal). *Procedia Earth Plan. Sci.*, 17, 646-649. doi: 10.1016/j.proeps.2016.12.173.

60. **Etioppe G.** (2017). Methane origin in the Samail ophiolite. Comment on “Modern water/rock reactions in Oman hyperalkaline peridotite aquifers and implications for microbial habitability” by Miller et al. 2016. *Geoch. Cosmochim. Acta*, 197, 467-470. <http://dx.doi.org/10.1016/j.gca.2016.08.001> IF: 5.01

61. Schwietzke S., Sherwood O.A., Bruhwiler L.M.P., Miller J.B., **Etiopie G.**, Dlugokencky E.J., Michel S.E., Arling V.A., Vaughn B.H., White J.W.C., Tans P.P. (2016). Upward revision of global fossil fuel methane emissions based on isotope database. *Nature*, 538, 88-91. doi:10.1038/nature19797. **IF: 54.6**

62. Saunio, M., Bousquet, P., Poulter, B., Peregón, A., Ciais, P., Canadell, J. G., Dlugokencky, E. J., **Etiopie G.**, Bastviken, D., Houweling, S., Janssens-Maenhout, G., Tubiello, F. N., Castaldi, S., Jackson, R. B., Alexe, M., Arora, V. K., Beerling, D. J., Bergamaschi, P., Blake, D. R., Brailsford, G., Brovkin, V., Bruhwiler, L., Crevoisier, C., Crill, P., Curry, C., Frankenberg, C., Gedney, N., Höglund-Isaksson, L., Ishizawa, M., Ito, A., Joos, F., Kim, H.-S., Kleinen, T., Krummel, P., Lamarque, J.-F., Langenfelds, R., Locatelli, R., Machida, T., Maksyutov, S., McDonald, K. C., Marshall, J., Melton, J. R., Morino, I., Naik, V., O'Doherty, S., Parmentier, F.-J. W., Patra, P. K., Peng, C., Peng, S., Peters, G. P., Pison, I., Prigent, C., Prinn, R., Ramonet, M., Riley, W. J., Saito, M., Santini, M., Schroeder, R., Simpson, I. J., Spahni, R., Steele, P., Takizawa, A., Thornton, B. F., Tian, H., Tohjima, Y., Viovy, N., Voulgarakis, A., van Weele, M., van der Werf, G., Weiss, R., Wiedinmyer, C., Wilton, D. J., Wiltshire, A., Worthy, D., Wunch, D. B., Xu, X., Yoshida, Y., Zhang, B., Zhang, Z., and Zhu, Q. (2016). The Global Methane Budget 2000–2012. *Earth Syst. Sci. Data*, 8, 697-751. doi:10.5194/essd-8-697-2016. **IF: 11.3**

63. Ciotoli G., **Etiopie G.**, Marra F., Florindo F., Giraudi C., Ruggiero L. (2016). Tiber delta CO₂-CH₄ degassing: a possible hybrid, tectonically active Sediment-Hosted Geothermal System near Rome. *J. Geophys. Res. - Solid Earth*, 121, 48-69. doi: 10.1002/2015JB012557. **IF 3.85**

64. Etiopie G., Vadillo I., Whiticar M.J., Marques J.M., Carreira P.M., Tiago I., Benavente J., Jiménez P., Urresti B. (2016). Abiotic methane seepage in the Ronda peridotite massif, southern Spain. *Appl. Geochemistry*, 66, 101-113. doi: 10.1016/j.apgeochem.2015.12.001 **IF 3.84**

65. Neubeck A., Nguyen D.T., **Etiopie G.** (2016). Low-temperature dunite hydration: evaluating CH₄ and H₂ production from H₂O and CO₂. *Geofluids*, 16, 408-420. doi: 10.1111/gfl.12159. **IF 2.18**

2015

66. **Etiopie G.**, Judas J., Whiticar M.J. (2015) Occurrence of abiotic methane in the eastern United Arab Emirates ophiolite aquifer. *Arab. J. Geosci.*, 8, 11345-11348. doi:10.1007/s12517-015-1975-4. **IF 1.83**

67. Andrei A.S., Robeson M.S., Baricz A., Coman C., Muntean V., Ionescu A., **Etiopie G.**, Alexe M., Sicora C.I., Podar M., Banciu H.L. (2015). Contrasting taxonomic stratification of microbial communities in two hypersaline meromictic lakes. *The ISME Journal*, 9, 2642-2656. doi:10.1038/ismej.2015.60. **IF 12.28**

68. **Etiopie G.**, Ionescu A. (2015). Low-temperature catalytic CO₂ hydrogenation with geological quantities of ruthenium: a possible abiotic CH₄ source in chromitite-rich serpentinized rocks. *Geofluids*, 15, 438-452. **IF 2.18**

2014

69. Whiticar M.J., **Etiopie G.** (2014). Hydrogen isotope fractionation in land-based serpentinization systems. Comment on "Origin of methane in serpentinite-hosted hydrothermal systems: The CH₄-H₂-H₂O hydrogen isotope systematics of the Hakuba Happo hot spring" by Suda et al. [Earth Planet. Sci. Lett. 386 (2014) 112–125]. *Earth Planet. Sci. Lett.*, 401, 373-375. **IF: 5.25**

70. **Etiopie G.**, Schoell M. (2014). Abiotic gas: atypical but not rare. *Elements*, 10, 291-296. **IF: 4.34**

71. **Etiopie G.**, Panieri G., Fattorini D., Regoli F., Vannoli P., Italiano F., Locritani M., Carmisciano C. (2014). A thermogenic hydrocarbon seep in shallow Adriatic Sea (Italy): gas origin, sediment contamination and benthic foraminifera. *Marine and Petroleum Geology*, 57, 283-293. doi: 10.1016/j.marpetgeo.2014.06.006. **IF: 4.35**

72. Friedrich J., F. Janssen, D. Aleynik, H. W. Bange, N. Boltacheva, M. N. Çağatay, A. W. Dale, **G. Etiope**, Z. Erdem, M. Geraga, A. Gilli, M. T. Gomoiu, P. O. J. Hall, D. Hansson, Y. He, M. Holtappels, M. K. Kirf, M. Kononets, S. Kononov, A. Lichtschlag, D. M. Livingstone, G. Marinaro, S. Mazlumyan, S. Naehar, R. P. North, G. Papatheodorou, O. Pfannkuche, R. Prien, G. Rehder, C. J. Schubert, T. Soltwedel, S. Sommer, H. Stahl, E. V. Stanev, A. Teaca, A. Tengberg, C. Waldmann, B. Wehrli, and F. Wenzhöfer (2014). Investigating hypoxia in aquatic environments: diverse approaches to addressing a complex phenomenon. *Biogeosciences*, 11, 1215-1259. doi:10.5194/bg-11-1215-2014. **IF: 4.29**

73. Embriaco D., Marinaro G., Frugoni F., Monna S., **Etiope G.**, Gasperini L., Polonia A., Del Bianco F., Çağatay M.N., Ulgen U.B., Favali P. (2014). Monitoring of gas and seismic energy release by multi-parametric benthic observatory along the North Anatolian Fault in the Sea of Marmara (NW Turkey). *Geoph. J. Int.*, 196, 850-866. doi: 10.1093/gji/ggt436. **IF: 2.93**

74. Rey A., Belelli-Marchesini L., **Etiope G.**, Papale D., Canfora E., Valentini R., Pegoraro E. (2014). Partitioning the net ecosystem carbon balance of a semiarid steppe into biological and geological components. *Biogeochemistry*, 118, 83-101. doi:10.1007/s10533-013-9907-4. **IF: 4.82**

2013

75. Tsikouras B., **Etiope G.**, Ifandi E., Kordella S., Papatheodorou G., Hatzipanagiotou K. (2013). Petrological implications for the production of methane and hydrogen in hyperalkaline springs from the Othrys ophiolite, Greece. *Bull. Geol. Soc. Greece*, XLVII, 1, 449-457.

76. Ciotoli G., **Etiope G.**, Florindo F., Marra F., Ruggiero L., Sauer P.E. (2013). Sudden deep gas eruption nearby Rome's airport of Fiumicino. *Geoph. Res. Lett.*, 40, 21, 5632–5636 doi: 10.1002/2013GL058132. **IF: 4.72**

77. **Etiope G.**, Vance S., Christensen L.E., Marques J.M., Ribeiro da Costa I. (2013). Methane in serpentinized ultramafic rocks in mainland Portugal. *Mar. Petrol.Geol.*, 45, 12-16, <http://dx.doi.org/10.1016/j.marpetgeo.2013.04.009> **IF: 4.34**

78. **Etiope G.**, Sherwood Lollar B. (2013). Abiotic methane on Earth. *Rev. Geoph.*, 51, 276-299, doi: 10.1002/rog.20011. **IF: 22**

79. **Etiope G.**, Tsikouras B., Kordella S., Ifandi E., Christodoulou D., Papatheodorou G. (2013). Methane flux and origin in the Othrys ophiolite hyperalkaline springs, Greece. *Chem. Geol.*, 347, 161-174, <http://dx.doi.org/10.1016/j.chemgeo.2013.04.003> **IF: 4.01**

80. **Etiope G.**, Drobniak A., Schimmelmann A. (2013). Natural seepage of shale gas and the origin of "eternal flames" in the Northern Appalachian Basin, USA. *Mar.Petrol.Geol.*, 43, 178-186, <http://dx.doi.org/10.1016/j.marpetgeo.2013.02.009>. **IF: 4.34**

81. Boschetti T., **Etiope G.**, Toscani L. (2013). Abiotic methane in the hyperalkaline springs of Genova, Italy. *Procedia Earth and Planetary Science*, 7, 248-251 <http://dx.doi.org/10.1016/j.proeps.2013.02.004>.

82. Allen, C.C., Oehler, D., **Etiope, G.**, Van Rensbergen, P., Baciuc, C., Feyzullayev, A.; Martinelli, G., Tanaka, K., Van Rooij, D. (2013). Fluid Expulsion in Terrestrial Sedimentary Basins: A process providing potential analogs for giant polygons and mounds in the martian lowlands. *Icarus*, 224, 424-432, <http://dx.doi.org/10.1016/j.icarus.2012.09.018>. **IF: 3.05**

83. Boschetti T., **Etiope G.**, Guerrot C., Pennisi M., Romain M., Toscani L. (2013). Boron, lithium and methane isotope composition of hyperalkaline waters (Northern Apennines, Italy): terrestrial serpentinization or mixing with brine? *Appl.Geochem.*, 32, 17-25, <http://dx.doi.org/10.1016/j.apgeochem.2012.08.018> **IF 3.84**

84. **Etiopie G.**, Ehlmann B., Schoell M. (2013). Low temperature production and exhalation of methane from serpentinized rocks on Earth: a potential analog for methane production on Mars. *Icarus*, 224, 276-285, <http://dx.doi.org/10.1016/j.icarus.2012.05.009> IF: 3.05

85. Hong W.L., **Etiopie G.**, Yang T.F., Chang P.Y. (2013). Methane flux of miniseepage in mud volcanoes of SW Taiwan: Comparison with the data from Europe. *J. Asian Earth Sci.*, 65, 3-12. <http://dx.doi.org/10.1016/j.jseaes.2012.02.005> IF: 3.45

86. **Etiopie G.**, Christodoulou D., Kordella S., Marinaro G. Papatheodorou G. (2013). Offshore and onshore seepage of thermogenic gas at Katakolo Bay (Western Greece). *Chem. Geol.*, 339, 115-126. <http://dx.doi.org/10.1016/j.chemgeo.2012.08.011>. IF: 4.01

87. Adrián-Martínez S., Ageron M., Aguilar J.A., Aharonian F., Aiello S., Albert A., Alexandri M....(et al.) **Etiopie G.**, et al. (2013). Detection potential of the KM3NeT detector for high-energy neutrinos from the Fermi bubbles. *Astroparticle Physics*, 42, 7-14, <http://dx.doi.org/10.1016/j.astropartphys.2012.11.010> IF: 2.72

2012

88. Gasperini L., Polonia A., Del Bianco F., Favali P., Marinaro G., **Etiopie G.** (2012). Cold seeps, active faults and the earthquake cycle along the North Anatolian Fault system in the Sea of Marmara (NE Turkey). *Boll. Geof. Teor. Appl.*, 53, 371-384, DOI 10.4330/bgta0082

89. Gasperini L., Polonia A., Del Bianco F., **Etiopie G.**, Marinaro G., Favali P., Italiano F., Çağatay M.N. (2012). Gas seepage and seismogenic structures along the North-Anatolian Fault in the eastern Sea of Marmara. *Geochem. Geophys. Geosyst.*, 13, Q10018, doi:10.1029/2012GC004190. IF: 3.62

90. Luyssaert, S., Abril, G., Andres, R., Bastviken, D., Bellassen, V., Bergamaschi, P., Bousquet, P., Chevallier, F., Ciais, P., Corazza, M., Dechow, R., Erb, K.-H., **Etiopie, G.**, Fortems-Cheiney, A., Grassi, G., Hartmann, J., Jung, M., Lathière, J., Lohila, A., Mayorga, E., Moosdorf, N., Njakou, D.S., Otto, J., Papale, D., Peters, W., Peylin, P., Raymond, P., Rödenbeck, C., Saarnio, S., Schulze, E.-D., Szopa, S., Thompson, R., Verkerk, P.J., Vuichard, N., Wang, R., Wattenbach, M., and Zaehle, S. (2012). The European land and inland water CO₂, CO, CH₄ and N₂O balance between 2001 and 2005. *Biogeosciences*, 9, 3357-3380, doi:10.5194/bg-9-3357-2012. IF: 4.29

91. Rey A., **Etiopie G.**, Belelli-Marchesini L., Papale D., Valentini R. (2012). Geologic carbon sources may confound ecosystem carbon balance estimates: evidence from a semiarid steppe in the SE of Spain. *J. Geoph. Res – Biogeosci.*, G03034, doi:10.1029/2012JG00199. IF: 3.82

92. **Etiopie G.** (2012). Methane uncovered. *Nature Geosci.*, 5, 373-374. IF: 17.93

93. Frunzeti N., Baciú C., **Etiopie G.**, Pfanz H. (2012). Geogenic emission of methane and carbon dioxide at Beciu mud volcano (Berca-Arbanasi hydrocarbon-bearing structure, Eastern Carpathians, Romania). *Carpathian J. Earth Environm.Sci.*, 7, 159-166.

94. Rey A., Belelli-Marchesini L., Were A., Serrano-Ortiz P., **Etiopie G.**, Papale D., Domingo D., Pegoraro E. (2012). Wind as a main driver of the net ecosystem carbon balance of a semiarid Mediterranean steppe in the South East of Spain. *Global Change Biol.*, 18, 539-554. doi: 10.1111/j.1365-2486.2011.02534.x. IF: 10.86

95. Mazzini A., **Etiopie G.**, Svensen H. (2012). A new hydrothermal scenario for the 2006 Lusi eruption, Indonesia. Insights from gas geochemistry. *Earth Plan. Sci. Lett.*, 317-318, 305-318. IF: 5.25

2011

96. **Etiopo G.**, Schoell M., Hosgormez H. (2011). Abiotic methane flux from the Chimaera seep and Tekirova ophiolites (Turkey): understanding gas exhalation from low temperature serpentinization and implications for Mars. *Earth Plan. Sci. Lett.*, 310, 96-104. **IF: 5.25**

97. Mazzini A., Svensen H., **Etiopo G.**, Onderdonk N., Banks D. (2011). Fluid origin, gas fluxes and plumbing system in the sediment-hosted Salton Sea Geothermal System (California, USA). *J. Volc. Geoth. Res.*, 205, 76-83. **IF: 2.79**

98. **Etiopo G.**, Nakada R., Tanaka K., Yoshida N. (2011). Gas seepage from Tokamachi mud volcanoes, onshore Niigata Basin (Japan): origin, post-genetic alterations and CH₄-CO₂ fluxes. *App. Geochem.*, 26, 348-359. **IF: 3.84**

99. **Etiopo G.**, Oehler D.Z., Allen C.C. (2011). Methane emissions from Earth's degassing: Implications for Mars. *Planetary and Space Science*, 59, 182-195. **IF: 2.03**

100. **Etiopo G.**, Baciuc C., Schoell M. (2011). Extreme methane deuterium, nitrogen and helium enrichment in natural gas from the Homorod seep (Romania). *Chemical Geology*, 280, 89-96. **IF: 4.01**

101. Sartini L., Simeone F., Pani P., Lo Bue N., Marinaro G., Grubich A., Lobko A., **Etiopo G.**, Capone A., Favali P., Gasparoni F., Bruni F. (2011). GEMS: Underwater spectrometer for long-term radioactivity measurements. *Nuclear Instruments and Methods in Physics Research A*, 626-627, S145-S147. **IF: 1.45**

2010

102. **Etiopo G.**, Baciuc C. (2010). Geofluids and natural gas in Romania, and the 10th International Conference on Gas Geochemistry. Editorial. *Geofluids (Wiley)*, 10, 457-462. **IF: 2.18**

103. **Etiopo G.**, Zwahlen C., Anselmetti F.S., Kipfer R., Schubert C.J. (2010). Origin and flux of a gas seep in the Northern Alps (Giswil, Switzerland). *Geofluids (Wiley)*, 10, 476-485. **IF: 2.18**

104. Spulber L., **Etiopo G.**, Baciuc C., Malos C., Vlad S.N. (2010). Methane emission from natural gas seeps and mud volcanoes in Transylvania (Romania). *Geofluids (Wiley)*, 10, 463-475. **IF: 2.18**

105. **Etiopo G.**, Klusman R.W. (2010). Microseepage in drylands: flux and implications in the global atmospheric source/sink budget of methane. *Global Planet. Change*, 72, 265-274. **IF: 5.11**

106. Vertino A., Savini A., Rosso A., Di Geronimo I., Mastrototaro F., Sanfilippo R., Gay G., **Etiopo G.** (2010). Benthic habitat characterization and distribution from two representative sites of the deep-water SML Coral Mound Province (Mediterranean). *Deep-Sea Res. II*, 57, 5-6, 380-396. **IF: 2.73**

107. **Etiopo G.** (2010). Geological Methane. Chapter 4. In: *Methane and Climate Change*, Edited by Dave Reay, Pete Smith and Andre van Amstel, Earthscan, London, 272p.

108. **Etiopo G.**, Klusman R.W. (2010). Methane microseepage in drylands: soil is not always a CH₄ sink. *J.Integrat.Environm.Sciences*, 7, Suppl. 1, 31-38. **IF: 1.87**

109. **Etiopo G.**, Savini A., Lo Bue N., Favali P., Corselli C. (2010). Deep-sea survey for the detection of methane at the "Santa Maria di Leuca" cold-water coral mounds (Ionian Sea, South Italy). *Deep-Sea Res. II.*, 57, 5-6, 431-440. **IF: 2.73**

2009

110. **Etiopo G.** (2009). Geological seepage – B1109. Chapter 11. Natural sources. EMEP/EEA air pollutant emission inventory guidebook — 2009. Technical guidance to prepare national emission inventories. EEA Technical report No 6/2009. European Environment Agency, Copenhagen, DOI 10.2800/23924.

111. Schulze E.D., P. Ciais, S. Luysaert, A. Freibauer, I.A. Janssens, J.F. Soussana, P. Smith, J. Grace, I. Levin, B. Thiruchittampalam, M. Heimann, A.J. Dolman, R. Valentini, P. Bousquet, P. Peylin, W. Peters, C. Rödenbeck, **G. Etiope**, N. Vuichard, M. Wattenbach, G.J. Nabuurs, Z. Poussi, J. Nieschulze, J.H. Gash, and the CarboEurope Team (2009). Importance of methane and nitrous oxide emissions for Europe's terrestrial greenhouse gas balance. *Nature Geoscience*, 2, 842-850. **IF: 17.93**

112. **Etiope G.**, Martinelli G. (2009). "Pieve Santo Stefano" is not a mud volcano: comment on "Structural controls on a carbon dioxide-driven mud volcano field in the Northern Apennines" (by Bonini, 2009). *J. Struct. Geology*, 31, 1270-1271, doi:10.1016/j.jsg.2009.06.009. **IF: 3.57**

113. Speranza F., Nicolosi I., Ricchetti N., **Etiope G.**, Rochette P., Sagnotti L., De Ritis R., Chiappini M (2009). The "Sirente crater field" (Italy) revisited. *J. Geoph. Res.–Solid Earth*, 114, doi:10.1029/2008JB005759. **IF: 3.85**

114. Savini A., Malinverno E., **Etiope G.**, Tessarolo C., Corselli C., (2009). Shallow seep-related seafloor features along the Malta Plateau (Sicily channel - Mediterranean Sea): Morphologies and geo-environmental control of their distribution. *Mar. Petrol. Geol.*, 26, 1831-1848, doi:10.1016/j.marpetgeo.2009.04.003. **IF: 4.35**

115. **Etiope G.**, Ciccio P. (2009). Earth's degassing – A missing ethane and propane source. *Science*, 323, 5913, 478, doi: 10.1126/science.1165904. **IF: 51.43**

116. **Etiope G.**, Feyzullayev A., Milkov A.V., Waseda A., Mizobe K., Sun C.H. (2009). Evidence of subsurface anaerobic biodegradation of hydrocarbons and potential secondary methanogenesis in terrestrial mud volcanoes. *Mar. Petroleum Geol.*, 26, 1692-1703. **IF: 4.35**

117. **Etiope G.** (2009). Natural emissions of methane from geological seepage in Europe. *Atmosph. Environment*, 43, 1430-1443, doi:10.1016/j.atmosenv.2008.03.014. **IF: 4.8**

118. **Etiope G.**, Feyzullayev A., Baciú C.L. (2009). Terrestrial methane seeps and mud volcanoes: a global perspective of gas origin. *Mar. Petroleum Geology*, 26, 333-344. , doi:10.1016/j.marpetgeo.2008.03.001. **IF: 4.35**

2008

119. Baciú C., **Etiope G.**, Cuna S., Spulber L. (2008). Methane seepage in an urban development area (Bacău, Romania): origin, extent and hazard. *Geofluids (Wiley)*, 8, 311-320, doi: 10.1111/j.1468-8123.2008.00228.x. **IF: 2.18**

120. Hosgormez H., **Etiope G.**, Yalçın M.N. (2008). New evidence for a mixed inorganic and organic origin of the Olympic Chimaera fire (Turkey): a large onshore seepage of abiogenic gas. *Geofluids (Wiley)*, 8, 263-275, doi: 10.1111/j.1468-8123.2008.00226.x. **IF: 2.18**

121. Cremonini S., **Etiope G.**, Italiano F., Martinelli G. (2008). Evidence of possible enhanced peat burning by deep originated methane in Po river delta (Italy). *J. Geology*, 116, 401-413. **IF: 2.7**

122. **Etiope G.**, Lassey K.R., Klusman R.W., Boschi E. (2008). Reappraisal of the fossil methane budget and related emission from geologic sources. *Geoph. Res. Lett.*, 35, L09307, doi:10.1029/2008GL033623. **IF: 4.72**

123. **Etiope G.**, Milkov A.V., Derbyshire E. (2008). Did geologic emissions of methane play any role in Quaternary climate change? *Global Planet. Change*, 61, 79-88. **IF: 5.11**

2007

124. Baciú C., Caracausi C., **Etiópe G.**, Italiano F. (2007). Mud volcanoes and methane seeps in Romania: main features and gas flux. *Annals of Geoph.*, 50, 501-512. **IF: 1.07**

125. **Etiópe G.**, Martinelli G., Caracausi A., Italiano F. (2007). Methane seeps and mud volcanoes in Italy: gas origin, fractionation and emission to the atmosphere. *Geoph.Res.Lett.*, 34, L14303, doi: 10.1029/2007GL030341. **IF: 4.72**

126. **Etiópe G.**, Fridriksson T., Italiano F., Winiwarter W., Theloke J. (2007). Natural emissions of methane from geothermal and volcanic sources in Europe. *J.Volcanol.Geoth.Res.*, 165, 76-86. **IF: 2.79**

127. **Etiópe G.**, Baciú C.L. (2007). Gas migration in the geosphere: the “geogas” theory. *Ambientum*, I/1-2, 95-101.

2006

128. Holland C.W., Weber T.C., **Etiópe G.** (2006). Acoustic Scattering from Mud Volcanoes and Carbonate Mounds. *J.Acoust.Soc.Amer.*, 120, 3553-3565. **IF: 1.84**

129. Marinaro G., **Etiópe G.**, Lo Bue N., Favali P., Papatheodorou G., Christodoulou D., Furlan F., Gasparoni F., Ferentinos G., Masson M., Rolin J.F. (2006). Monitoring of a methane-seeping pockmark by cabled benthic observatory (Patras Gulf, Greece). *Geo-Mar. Letters*, doi: 10.1007/s00367-006-0040-4. **IF: 1.84**

130. **Etiópe G.**, Papatheodorou G., Christodoulou D., Geraga M., Favali P. (2006). The geological links of the ancient Delphic Oracle (Greece): A reappraisal of natural gas occurrence and origin. *Geology*, 34, 10, 821-824. **IF: 4.77**

131. **Etiópe G.**, Favali P., Fuda J.L., Italiano F., Laubenstein M., Millot C., Plastino W. (2006). The Benthic Boundary Layer: geochemical and oceanographic data from the GEOSTAR-2 observatory. *Annals of Geophysics*, 49, 705-713. **IF: 1.07**

132. **Etiópe G.**, Papatheodorou G., Christodoulou D., Ferentinos G., Sokos E., Favali P. (2006). Methane and hydrogen sulfide seepage in the NW Peloponnesus petroliferous basin (Greece): origin and geohazard. *AAPG Bulletin.*, 90, 5, 701-713. **IF: 3.16**

2005

133. Milkov A.V., **Etiópe G.** (2005). Global methane emission through mud volcanoes and its past and present impact on the Earth's climate. Comment. *Intern. J. of Earth Sciences*, 94, 490-492. **IF: 2.52**

134. **Etiópe G.** (2005). Mud volcanoes and microseepage: the forgotten geophysical components of atmospheric methane budget. *Annals of Geophysics*, 48, 1-7. **IF: 1.07**

135. **Etiópe G.**, Guerra M., Raschi A. (2005). Carbon dioxide and radon geo-hazards over a gas-bearing fault in the Siena Graben (Central Italy). *Terr. Atm. Ocean. Sci.*, 16, 885-896. **IF: 1.0**

136. **Etiópe G.**, Papatheodorou G., Christodoulou D., Favali P., Ferentinos G., (2005). Gas Hazard Induced by Methane and Hydrogen Sulfide Seepage in the NW Peloponnesus Petroliferous Basin (Greece). *Terr.Atm.Ocean. Sci.*, 16, 897-908. **IF: 1.0**

137. **Etiópe G.** (2005). Methane emission from mud volcanoes: towards a global estimate. In: Martinelli G, Panahi B. eds., Mud volcanoes, Geodynamics and Seismicity. IV Earth and Environmental Sciences, vol. 51, 141-146. NATO Science Series, Springer.

138. Baciú C., **Etiópe G.** (2005). Mud volcanoes and seismicity in Romania. In: Martinelli G, Panahi B. eds., Mud volcanoes , Geodynamics and Seismicity. IV Earth and Environmental Sciences, vol. 51, 77-87. NATO Science Series, Springer.

139. Ciotoli G., **Etiópe G.**, Guerra M., Lombardi S., Duddridge G.A., Grainger P. (2005). Migration and behaviour of gas injected into a fault in low-permeability ground. *Quart.J.Engineer.Geol.and Hydrog.*, 38, 305-320. **IF: 1.0**

2004

140. **Etiópe G.**, Feyzullaiev A., Baciú C.L., Milkov A.V. (2004). Methane emission from mud volcanoes in eastern Azerbaijan. *Geology*, 32, 6, 465-468. **IF: 4.77**

141. **Etiópe G.**, Baciú C., Caracausi A., Italiano F., Cosma C. (2004). Gas flux to the atmosphere from mud volcanoes in eastern Romania. *Terra Nova*, 16, 179-184. **IF: 3.04**

142. **Etiópe G.** (2004). GEM – Geologic Emissions of Methane, the missing source in the atmospheric methane budget. *Atmospheric Environm.*, 38, 19, 3099-3100. **IF: 4.8**

143. **Etiópe G.**, Milkov A.V. (2004). A new estimate of global methane flux from onshore and shallow submarine mud volcanoes to the atmosphere. *Environm. Geology*, 46, 997-1002. **IF: 1.1**

144. Marinaro G., **Etiópe G.**, Gasparoni F. , Calore D., Cenedese S. , Furlan F. , Masson M. , Favali P. , J. Blandin (2004). GMM - a Gas Monitoring Module for long-term detection of methane leakage from seafloor *Environm. Geology*, 46, 1053-1058. **IF: 1.1**

2003

145. **Etiópe G.**, Caracausi A., Favara R., Italiano F., Baciú C. (2003). Reply to comment by A. Kopf on “Methane emission from the mud volcanoes of Sicily (Italy)”, and notice on CH₄ flux data from European mud volcanoes. *Geoph. Res. Lett.*, 30 (2), 1094, doi: 10.1029/2002GL016287. **IF: 4.72**

146. Holland, C.W., **Etiópe, G.**, Milkov, A.V., Michelozzi E. and Favali P. (2003). Mud volcanos discovered offshore Sicily. *Marine Geology*, 199, 1-6. **IF: 3.55**

147. Beranzoli L., Braun T., Calcara M., Casale P., De Santis A., D’Anna G., Di Mauro D., **Etiópe G.**, Favali P., Fuda J.L., Frugoni F., Gamberi F., Marani M., Millot C., Montuori C., Smriglio G. (2003). Mission results from the first GEOSTAR observatory (Adriatic Sea, 1998). *Earth Planets Space*, 55, 361-373. **IF: 2.79**

2002

148. **Etiópe G.** , Klusman R.W. (2002). Geologic emissions of methane to the atmosphere. *Chemosphere*, 49, 8, 777-789, [https://doi.org/10.1016/S0045-6535\(02\)00380-6](https://doi.org/10.1016/S0045-6535(02)00380-6), **IF: 7.09**

149. Morner N.A., **Etiópe G.** (2002). Carbon degassing from the lithosphere. *Global Planet. Change.*, 33, 1-2, 185-203. **IF: 5.11**

150. **Etiópe G.**, A. Caracausi, R. Favara, F. Italiano, C. Baciú (2002). Methane emission from the mud volcanoes of Sicily (Italy). *Geoph. Res. Lett.*, 29, 8, 10.1029/2001GL014340. **IF: 4.72**

151. **Etiópe G.**, Martinelli G. (2002). Migration of carrier and trace gases in the geosphere: an overview. *Phys. Earth Planet. Int.*, 129, 3-4, 185-204. **IF: 2.26**

152. Fuda J.-L., **Etiópe G.**, Millot C., Favali P., Calcara M., Smriglio G., Boschi E. (2002). Warming, salting and origin of the Tyrrhenian Deep Water . *Geoph. Res. Lett.* , 29, 1029/2001GL014072. **IF: 4.72**

153. **Etiopo G.**, Italiano F., Favali P., Smriglio G. (2002). Soil degassing at the Ustica Island: comparison between 1997 and 1999 surveys. *Geofisica Int.*, 41, 3.

154. **Etiopo G.**, Carnevale, P., Gasparoni, F., Calcara, M., Favali, P. and Smriglio, G., (2002). Offshore hydrocarbon leakage: hazard and monitoring. In: Science-Technology Synergy for Research in the Marine Environments: Challenges for the XXI Century (*L.Beranzoli, P Favali and G. Smriglio, editors*); Developments in Marine Technology Series, 12, 217-228. Elsevier, Amsterdam.

155. Favali P., Smriglio G., Beranzoli L., Braun T., Calcara M., D'Anna G., De Santis A., Di Mauro D., **Etiopo G.**, Frugoni F., Iafolla V., Monna S., Montuori C., Nozzoli S., Palangio P., Romeo G., (2002). Towards a quasi-permanent deep sea observatory: the GEOSTAR European experiment. In: Science-Technology Synergy for Research in the Marine Environments: Challenges for the XXI Century (*L.Beranzoli, P Favali and G. Smriglio, editors*); Developments in Marine Technology Series, 12, 111-120. Elsevier, Amsterdam.

156. Baciù C., **Etiopo G.** (2002). The environmental significance of methane emission from geogenic sources. *Studia Universitatis Babeş-Bolyai, Geologia*, Special issue 1, 31-36.

2001

157. Calcara M., Beranzoli L., Braun T., Calore D., De Santis A., **Etiopo G.**, Favali P., Frugoni F., Gasparoni F., Montuori C., Smriglio G., (2001). MABEL: a multidisciplinary benthic laboratory for deep sea long-term monitoring in Antarctic environment. *Terra Antartica*, 8, 2, 115-118.

2000

158. **Etiopo G.**, Italiano F., Fuda J.L., Favali P. Frugoni F., Calcara M., Smriglio G., Marani M. (2000). Deep submarine gas vents in the Aeolian offshore. *Phys. Chem. Earth.*, 25, 1, 25-28. **IF: 2.71**

159. Beranzoli L., Braun T., Calcara M., Calore D., Campaci R., Coudeville J.M., De Santis A., **Etiopo G.**, Favali P., Frugoni F., Fuda J.L., Gamberi F., Gasparoni F., Gerber H., Marani M., Marvaldi J., Millot C., Palangio P., Romeo G., Smriglio G., (2000). European seafloor observatory offers new possibilities for deep-sea study. *EOS*, 81, 5, 45 and 48.

160. Beranzoli L., Braun T., Calcara M., De Santis A., Di Mauro D., **Etiopo G.**, Favali P., Frugoni F., Montuori C., Palangio P., Romeo G., Smriglio G., Gamberi F., Marani M., Fuda J.L., Millot C., (2000). GEOSTAR, an observatory for deep sea geophysical and oceanographic researches: characteristics, first scientific mission and future activity. *Mem.Soc.Geol.It.*, 55, 491-497.

1999

161. **Etiopo G.** (1999). Subsoil CO₂, and CH₄ and their advective transfer from faulted grassland to the atmosphere. *J. Geoph. Res. Atm.*, 104, D14, 16,889-16,894. **IF: 4.26**

162. **Etiopo G.**, P. Beneduce, M. Calcara, P. Favali, F. Frugoni, M. Schiattarella, G. Smriglio (1999). Structural pattern and CO₂-CH₄ degassing of Ustica Island, Southern Tyrrhenian basin. *J. Volc. Geoth. Res.*, 88, 4, 291-304. **IF: 2.79**

163. Guerra M., **Etiopo G.** (1999). Effects of gas-water partition, channelling and stripping processes upon radon and helium gas distribution in fault areas. *Geochem. J.*, 33, 141-151. **IF: 0.88**

164. **Etiopo G.**, Guerra M. (1999). Gas-water partition and gas channeling along Rn-He-CO₂ bearing faults. *Il Nuovo Cimento*, 22, 3-4, 369-372.

165. Ciotoli G., **Etiopo G.**, Guerra M. and Lombardi S. (1999). The detection of concealed faults in the Ofanto Basin using the correlation between soil-gas fracture surveys. *Tectonophysics*, 301, 3-4, 321-332. **IF: 3.93**

1998

166. **Etiopo G.** (1998). Transport of radioactive and toxic matter by gas microbubbles in the ground. *J. Environm. Radioactivity*, 40, 1, 11-13. **IF: 2.67**

167. Beranzoli L., De Santis A., **Etiopo G.**, Favali P., Frugoni F., Smriglio G., Gasparoni F. and Marigo A. (1998): GEOSTAR: a GEophysical and Oceanographic STation for Abyssal Research. *Phys. Earth Planet. Int.*, 108, 175-183. **IF: 2.26**

168. **Etiopo G.**, Zhang Wei (1998): Radon in geogas microbubbles: a new perspective of earthquake precursor. *J. Earthquake Pred. Res.*, 7, 3, 382-390.

1995 - 1997

169. **Etiopo G.** (1997). Evaluation of a micro-gas chromatographic technique for environmental analyses of CO₂ and C₁-C₆ alkanes. *J. Chromatography A*, 775, 243-249. **IF: 4.76**

170. **Etiopo G.**, Lombardi S. (1996). Laboratory simulation of geogas microbubble flow. *Environmental Geology*, 27, 226-232. **IF: 1.1**

171. **Etiopo G.** (1997). Migration in the ground of CO₂ and other volatile contaminants. Theory and survey. In: *Plant Responses to Elevated CO₂, Evidence from natural springs* (Raschi, Miglietta, Tognetti, van Gardigen Eds.) Cambridge University Press, 7-20.

172. **Etiopo G.**, Lombardi S. (1997). Levels of CO₂ leakage in relation to geology. In: *Plant Responses to Elevated CO₂, Evidence from natural springs* (Raschi, Miglietta, Tognetti, van Gardigen Eds.) Cambridge University Press, 21-33.

173. **Etiopo G.**, Calcara M., Quattrocchi F. (1997). Seismo-geochemical algorithms for earthquake prediction: a review. *Annali di Geofisica*, XL, 6, 1483-1492.

174. **Etiopo G.**, Lombardi S. (1995). Evidence for radon transport by carrier gas through faulted clays in Italy. *J. of Radioan. Nucl. Chemistry*, 193, 2, 291-300. **IF: 1.37**

175. **Etiopo G.**, Lombardi S. (1995). Soil gases as fault tracers in clay basins: a case history in the Siena basin (Central Italy). In: *Gas Geochemistry*, (C.Dubois, ed.), Science Reviews, Northwood, pp. 19-29. Supplement to *Environmental Geochemistry and Health*, 16 (1994). **IF: 4.61**

176. **Etiopo G.**, Lombardi S. (1994). Soil-gas ²²²Rn in sedimentary basins in central Italy: its implications in radiation protection zoning. *Rad. Protect. Dosim.*, 56, 1-4, 231-233. **IF: 0.97**

ONLINE JOURNALS, SPECIAL PAPERS, DATABASES (N. 7)

O1. Oh, Y., Bruhwiler, L., Lan, X., Basu, S., Schuldt, K., Thoning, K., Michel, S. E., Clark, R., Miller, J. B., Andrews, A., Sherwood, O., **Etiopo, G.**, Crippa, M., Liu, L., Zhuang, Q., Randerson, J., van der Werf, G., Aalto, T., Amendola, S., ... Xueref-Remy, I. (2023). CarbonTracker CH₄ 2023. *NOAA Global Monitoring Laboratory*. <https://doi.org/10.25925/40JT-QD67>

O2. Stamenkovic, V., Lynch, K., Boston, P., Tarnas, J., Edwards, C. D., Sherwood-Lollar, B., ...**Etiopo G.** & Timoney, R. (2021). Deep Trek: Science of Subsurface Habitability & Life on Mars. *Bulletin of the American Astronomical Society*, 53(4), 250. <https://doi.org/10.3847/25c2cfeb.dc18f731>

- O3. Edwards, C., Stamenkovic, V., Boston, P., Lynch, K., Tarnas, J., Sherwood-Lollar, B., ... **Etiopie G.** ... Timoney, R. (2021). Deep Trek: Mission Concepts for Exploring Subsurface Habitability & Life on Mars — A Window into Subsurface Life in the Solar System. *Bulletin of the American Astronomical Society*, 53(4). <https://doi.org/10.3847/25c2cfcb.5f50cebc>
- O4. Sherwood, O., Schwietzke, S., Arling, V., **Etiopie, G.** (2016). Global Inventory of Fossil and Non-fossil Methane $\delta^{13}\text{C}$ Source Signature Measurements for Improved Atmospheric Modeling (NOAA/ESRL/GMD). <http://doi.org/10.15138/G37P4D>
- O5. Ruffine L., Fandino O., Etoubleau J., Chéron S., Donval J.P., Germain Y., Ponzevera E., Guyader V., Dennielou B., **Etiopie G.**, Gasperini L., Bortoluzzi G., Henry P., Grall C., Çagatay N.M., Charlou J.L., Géli L. (2012). Geochemical Dynamics of the Natural-Gas Hydrate System in the Sea of Marmara, Offshore Turkey, *Advances in Natural Gas Technology*, Dr. Hamid Al-Megren (Ed.), ISBN: 978-953-51-0507-7, InTech.
- O6. **Etiopie G.** (2009). GLOGOS, A New Global Onshore Gas-Oil Seeps Dataset. *Search and Discovery*, Article #70071, 28 September 2009, AAPG online journal, <http://www.searchanddiscovery.net>.
- O7. **Etiopie G.** (2009). A global dataset of onshore gas and oil seeps: a new tool for hydrocarbon exploration. *Oil & Gas Business Journal*, October 2009, <http://www.ogbus.ru/eng/>, Ufa State Petroleum Technological University.

Proceedings of international conferences and special volumes (32) (AGU, EGU and other abstracts excluded)

- P1. Oehler D.Z., Salvatore M., **Etiopie G.**, Allen C.C. (2021). Focusing the Search for Organic Biosignatures on Mars. 52nd Lunar and Planetary Science Conference, held virtually, 15-19 March, 2021. LPI Contribution No. 2548, id.1353
- P2. Viscardy S., Daerden F., Neary L., Giuranna M., **Etiopie G.**, Oehler D. (2019). Searching for the Most Probable Source Locations of the Methane Detected by Curiosity and PFS in Mid-June 2013. Ninth International Conference on Mars, held 22-25 July, 2019 in Pasadena, California. LPI Contribution No. 2089, id.6162
- P3. Viscardy S., Daerden F., Neary L., Giuranna M., **Etiopie G.**, Oehler D. (2018). Looking for the sources of methane on Mars: statistical analysis of GCM simulations. European Planetary Science Congress 2018, held 16-21 September 2018 at TU Berlin, Berlin, Germany, id.EPSC2018-689
- P4. Luzzi E., Rossi A.P., Pozzobon R., Oehler D.Z., **Etiopie G.** (2018). Becquerel Crater Radial Faults: A Possible Target for Methane Seepage Investigations. 49th Lunar and Planetary Science Conference 19-23 March, 2018, held at The Woodlands, Texas LPI Contribution No. 2083, id.1494.
- P5. Blank, J.G., **Etiopie, G.**, Stamenkovic, V., Rowe, A.R., Kohl, I., Li, S., Young, E.D. (2017). Methane at the Aqua de Ney hyperalkaline spring (N. California, USA), a site of active serpentinization. In: *Astrobiol. Sci. Conf. 2017*, 3608, April 24–28, 2017, Mesa, Arizona.
- P6. Webster K.D., **Etiopie G.**, Drobnik A., Schimmelmann A., Pratt L.M. (2012). Measurement of Terrestrial Methane Concentrations Comparable to Proposed Methane Concentrations on Mars. International Workshop on Instrumentation for Planetary Missions, held October 10-12, 2012 in Greenbelt, Maryland. LPI Contribution No. 1683, p.1009
- P7. Marinaro, G., **Etiopie, G.**, Gasparoni, F. Furlan F., Bruni, F. (2011). Gas seepage detection and monitoring at seafloor. 10th Offshore Mediterranean Conference and Exhibition, Ravenna, Italy, March 23-25, 2011, “Frontier exploration” session.
- P8. Schoell M., **Etiopie G.** (2011). Ophiolites as Source of Abiotic Methane on Earth: Analogue Mission Potential Sites for Methane Flux Measurements on Mars. Analogue Sites for Mars Missions: MSL and Beyond, held March 5-6, 2011 at The Woodlands, Texas. LPI Contribution No. 1612, 2011, id.6036
- P9. **Etiopie G.** (2010). A global overview on methane origin and emission from terrestrial mud volcanoes. *Proceedings of Geology Institute n.37*, National Academy of Sciences of Azerbaijan, Nafta Press, Baku, 91-99
- P10. **Etiopie G.** (2009). Natural emissions of methane from geological sources in Europe and Italy. In: *Atmospheric composition Change - Causes and Consequences - Local to Global*. Second ACCENT Symposium. Editor: Michela Maione, Sandro Fuzzi, Aracne editrice S.r.l., CD-Rom.
- P11. Friedrich R., Theloke J., Winiwarther W., Beekmann M., Butterbach-Bahl, Dore C., **Etiopie G.**, Fudala J., Gaudioso D., Gebetsroither E., Grice S., Kahl M.D., Hoebler R., Korcz M., Leitao Alexandre J., Pfeiffer H., Saarnio S., Seufert G., Smiatek G., Steinbrecher R., Sturman J., Vautard R., Woodfield M. (2009). Natural and biogenic emissions and their impacts on air quality. In:

Atmospheric composition Change - Causes and Consequences - Local to Global. Second ACCENT Symposium. Editor: Michela Maione, Sandro Fuzzi, Aracne editrice S.r.l., pp. 138-141.

- P12. **Etiopo G.** (2009). Present emission of methane, ethane and propane from Earth's degassing. *Geoch.Cosm.Acta*, 73, 13, A340-A340.
- P13. Mienert, J., Parkes, J., Jørgensen, B.B., Boetius, A., Bjørkum, P.A., Bohrmann, G., De Batist, M., **Etiopo, G.**, Kormas, K., Heuer, V., Abisi, G., Diaz del Río, V. & del Gaudio, R. (2007). Biosphere-geosphere interactions : fluid flow and gas seepage at continental margins. In : Cochonat, P., Dürr, S., Gunn, V., Herzig, P., Mienert, J., Schneider, R., Weaver, P.P.E. & Winkler, A. (Eds.) *The Deep-Sea Frontier: Science challenges for a sustainable future*. Research*EU 22812, pp. 16-22.
- P14. **Etiopo G.**, Marinaro G., Favali P., Furlan F., Cenedese S., Gasparoni F. (2005). New technologies for methane leakage monitoring from seafloor - Description and first operational results. *OMC-2005, Offshore Mediterranean Conference and Exhibition, Ravenna, Italy, March 16-18, 2005*.
- P15. Rolin, J.-F., Blandin, J., Lykousis, V., Strout, J.M., **Etiopo, G.**, Favali, P., Briole, P., Ballu, V., Papatheodorou, G., Ferentinos, G., Cathy, D., Masson, M. (2005). Common issues between cabled and non cabled observatories in ASSEM project. *Proceedings Ocean 2005 – Europe*, vol.2, 872-877.
- P16. **Etiopo G.** (2005). The role of geological sources in the atmospheric methane budget: a reappraisal. *Proceed. Non-CO2 Greenhouse Gases (NCGG-4)*, coordinated by A. van Amstel, Millpress, Rotterdam, 345-352.
- P17. Person, R.; Blandin, J.; Lykousis, V.; Briole, P.; Ballu, V.; **Etiopo, G.**; Masson, M.; Smolders, S.; Strout, J M.; Ferentinos, G (2004). ASSEM; a new concept of observatories for long term seabed monitoring. *The Proceedings of the International Offshore and Polar Engineering Conference*, vol.14, Volume 2, pp.358-362.
- P18. Favali, P., Beranzoli, L., Calcara, M., D'Anna, G., **Etiopo, G.**, Frugoni, F., Lo Bue, N. Marinaro, G., Monna, S., Montuori, C., Sgroi, T., Gasparoni, F., Cenedese, S., Furlan, F., Ferentinos, G., Papatheodorou, G., Christodolou, D., Blandin, J., Marvaldi, J., Rolin, J.-F., Clauss, G., Gerber, H., Coudeville, J.-M., Nicot, M., Flueh, E., Gamberi, F., Marani, M. P., Neri, G. (2004). Single-frame multiparameter platforms for seafloor geophysical and environmental observation: projects and missions from GEOSTAR to ORION. *Proceedings OCEANS 2004. 9-12. November 2004. Kobe, Japan. 0-78038669-8/04 IEEE*.
- P19. Blandin J., Person R., Strout J.M., Briole P., **Etiopo G.**, Masson M., Golightly C.R., Lykousis, Ferentinos G (2003). ASSEM: Array of sensors for long term seabed monitoring of geohazards. *Proceedings of Operational Oceanography, European Commission, Athens December 2002*.
- P20. Blandin J., Person R., Strout J.M., Briole P., **Etiopo G.**, Masson M., Smolders S., Lykousis V., Ferentinos G. & Legrand J (2003). ASSEM: a new concept of regional observatory. *The 3rd International Workshop on Scientific Use of Submarine Cables and Related Technologies, Tokyo*.
- P21. Cosma C., Italiano F., Baci C., Ristoiu D., **Etiopo G.** (2003). Gas composition and helium isotope ratios in geothermal sources from Cerna Valley (Romania). *Proceed. ICGG7, 22-23, Copernicus GmbH*.
- P22. Blandin, J., Person, R., Strout, J M., Briole, P., Ballu, V., **Etiopo, G.**, Masson, M., Smolders, S., Lykousis, V., Ferentinos, G. (2003). ASSEM; Array of Sensors for long term SEabed Monitoring of geohazards. *Elsevier Oceanography Series*, 69 (Building the European Capacity in Operational Oceanography), 349-352, doi:10.1016/S0422-9894(03)80056-9
- P23. Beranzoli L., Braun T., Calcara M., Calore D., Campaci R., Coudeville J.M., De Santis A., **Etiopo G.**, Favali P., Frugoni F., Fuda J.L., Gamberi F., Gasparoni F., Gerber H., Marani M., Marvaldi J., Millot C., Palangio P., Romeo G., Smriglio G., (2002). GEOSTAR - GEophysical and Oceanographic Station for Abyssal Research. *Elsevier Oceanography Series*, 66 (Operational Oceanography: Implementation at the European and Regional Scales), 307-315.
- P24. Blandin J., Person R., Strout J.M., Briole P., **Etiopo G.**, Masson M., Golightly C.R., Lykousis, Ferentinos G (2002). ASSEM: Array of sensors for long term seabed monitoring of geohazards. *Proceedings of Underwater Technology 2002 – UT2002, Tokyo 16-19 April 2002*.
- P25. Italiano F., Favara R., **Etiopo G.**, Favali P. (2001). Submarine emissions of greenhouse gases from hydrothermal and sedimentary areas. *Water-Rock Interaction 2001*, Cidu (ed.), Swets & Zeitlinger, 863-866.
- P26. Fuda J.L., Millot C., **Etiopo G.**, Favali P., Smriglio G., Rougiert G. (2001). Large temperature and salinity trends in the deep Tyrrhenian and origin of the Tyrrhenian deep water. *Rapp. Comm. Int. Mer Médit.*, 36, 62.
- P27. **Etiopo G.** and Hakl J. (2001). The “geogas” theory. *Proc. 5th ICRGG, Int. Conference on Rare Gas Geochemistry*, Edited by I.Hunyadi, I Csige and J.Hakl, EP Systema, Debrecen, 7-19.
- P28. Calcara M., **Etiopo G.**, Favali P., Calore D., Gasparoni F and G. Smriglio (2001). Geostar, a platform for submarine geochemical measurements. *Proc. 5th ICRGG, Int. Conference on Rare Gas Geochemistry*, Edited by I.Hunyadi, I Csige and J.Hakl, EP Systema, Debrecen, 247-255.

- P29. Favali P., Smriglio G., Beranzoli L., **Etiopo G.**, Frugoni F., Gasparoni F., Calore D. Campaci R. (1998). Data from GEOSTAR: a contribution to ocean monitoring. *Proceedings of the Ocean Data Symposium*, Dublin 1997, Ed. B. Cahill, Irish Marine Data Centre, Marine Institute.
- P30. Favali P., Smriglio G., Beranzoli L., Braun T., Calcara M., **Etiopo G.**, Frugoni F., Millot C., Fuda J.L., Marani M., Gamberi F., Dobson J.V., Marshall N., (1998). *GEOSTAR - Scientific goals of the project and results of the first test phase*; Proceedings (on CD - ROM) of the IEEE Conference and exhibition "OCEANS 98", 28 September - 1 October, Nice.
- P31. Beranzoli L., **Etiopo G.**, Favali P., Frugoni F., Smriglio G. (1997). GEOSTAR observatory for geophysical and environmental monitoring. *Proceed. International Workshop on the Scientific Use of Submarine Cables*, Okinawa, February 1997, 145-146.
- P32. Lombardi S., **Etiopo G.**, Pinti D.L. (1993). Rn-222 variations in soil gas as seismic signals at Latera Caldera (Central Italy). *Proceedings 2nd Workshop on Radon Monitoring in Radioprotection, Env.and /or Earth Science*, (Furlan G., Tommasino L., eds.), World Scientific, 418-434.

Other international proceedings (13)

1. Marinaro, G., **Etiopo, G.**, Gasparoni, F. Furlan F., Bruni, F. (2011). Gas seepage detection and monitoring at seafloor. *10th Offshore Mediterranean Conference and Exhibition, Ravenna, Italy, March 23-25, 2011, "Frontier exploration" session.*
2. **Etiopo G.** (2010). A global overview on methane origin and emission from terrestrial mud volcanoes. *Proceedings of Geology Institute n.37, National Academy of Sciences of Azerbaijan, Nafta Press, Baku, 91-99*
3. **Etiopo G.**, Marinaro G., Favali P., Furlan F., Cenedese S., Gasparoni F. (2005). New technologies for methane leakage monitoring from seafloor - Description and first operational results. *OMC-2005, Offshore Mediterranean Conference and Exhibition, Ravenna, Italy, March 16-18, 2005.*
4. Rolin, J.-F., Blandin, J., Lykousis, V., Strout, J.M., **Etiopo, G.**, Favali, P., Briole, P., Ballu, V., Papatheodorou, G., Ferentinos, G., Cathy, D., Masson, M. (2005). Common issues between cabled and non cabled observatories in ASSEM project. *Proceedings Ocean 2005 – Europe*, vol.2, 872-877.
5. Person, R; Blandin, J; Lykousis, V; Briole, P; Ballu, V; **Etiopo, G**; Masson, M; Smolders, S; Strout, J M; Ferentinos, G (2004). ASSEM; a new concept of observatories for long term seabed monitoring. *The Proceedings of the International Offshore and Polar Engineering Conference*, vol.14, Volume 2, pp.358-362.
6. Favali, P., Beranzoli, L., Calcara, M., D'Anna, G., **Etiopo, G.**, Frugoni, F., Lo Bue, N. Marinaro, G., Monna, S., Montuori, C., Sgroi, T., Gasparoni, F., Cenedese, S., Furlan, F., Ferentinos, G., Papatheodorou, G., Christodolou, D., Blandin, J., Marvaldi, J., Rolin, J.-F., Clauss, G., Gerber, H., Coudeville, J.-M., Nicot, M., Flueh, E., Gamberi, F., Marani, M. P., Neri, G. (2004). Single-frame multiparameter platforms for seafloor geophysical and environmental observation: projects and missions from GEOSTAR to ORION. *Proceedings OCEANS 2004. 9.-12. November 2004. Kobe, Japan. 0-78038669-8/04 IEEE.*
7. Blandin J., Person R., Strout J.M., Briole P., **Etiopo G.**, Masson M., Golightly C.R., Lykousis, Ferentinos G (2003). ASSEM: Array of sensors for long term seabed monitoring of geohazards. *Proceedings of Operational Oceanography, European Commission, Athens December 2002.*
8. Blandin J., Person R., Strout J.M., Briole P., **Etiopo G.**, Masson M., Smolders S., Lykousis V., Ferentinos G. & Legrand J (2003). ASSEM: a new concept of regional observatory. *The 3rd International Workshop on Scientific Use of Submarine Cables and Related Technologies, Tokyo.*
9. Cosma C., Italiano F., Baciu C., Ristoiu D., **Etiopo G.** (2003). Gas composition and helium isotope ratios in geothermal sources from Cerna Valley (Romania). *Proceed. ICGG7, 22-23, Copernicus GmbH.*
10. Blandin J., Person R., Strout J.M., Briole P., **Etiopo G.**, Masson M., Golightly C.R., Lykousis, Ferentinos G (2002). ASSEM: Array of sensors for long term seabed monitoring of geohazards. *Proceedings of Underwater Technology 2002 – UT2002, Tokyo 16-19 April 2002.*
11. Favali P., Smriglio G., Beranzoli L., **Etiopo G.**, Frugoni F., Gasparoni F., Calore D. Campaci R. (1998). Data from GEOSTAR: a contribution to ocean monitoring. *Proceedings of the Ocean Data Symposium*, Dublin 1997, Ed. B. Cahill, Irish Marine Data Centre, Marine Institute.
12. Favali P., Smriglio G., Beranzoli L., Braun T., Calcara M., **Etiopo G.**, Frugoni F., Millot C., Fuda J.L., Marani M., Gamberi F., Dobson J.V., Marshall N., (1998). *GEOSTAR - Scientific goals of the project and results of the first test phase*; Proceedings (on CD - ROM) of the IEEE Conference and exhibition "OCEANS 98", 28 September - 1 October, Nice.
13. Beranzoli L., **Etiopo G.**, Favali P., Frugoni F., Smriglio G. (1997). GEOSTAR observatory for geophysical and environmental monitoring. *Proceed. International Workshop on the Scientific Use of Submarine Cables*, Okinawa, February 1997, 145-146.

SCIENTIFIC REPORTS ON SPECIAL VOLUMES (n. 6)

- RS1. Ambrosetti P., Basilici G., Di Filippo M., Di Maio R., Gentili S., Lombardi S., Patella D., Toro B., Brozzetti F., Cammarano F., Cattuto C., Ciotoli G., Di Giacomo B., **Etiopo G.**, Fisauli M., Gregori L., Piscitelli S., Pontini R., Ruspandini T. (1997). The stratigraphic, depositional, geomorphological and structural characteristics of the sediments which contain the fossil forest of Dunarobba (FFD), In: *Analysis of the geoenvironmental conditions as morphological evolution factors of the sand-clay series of the Tiber Valley and Dunarobba forest preservation*, (Valentini G. et al., Eds.), Final Report, Nuclear Science and Technology, European Commission, EUR 17479.
- RS2. **Etiopo G.**, Lombardi S., Duddridge G.A., Grainger P., Chiantore R., Gera F., Pensieri R., Grindrod P., Impey M.D. (1996). The refinement of soil gas analysis as a geological investigative technique: conclusive results of gas migration studies. In: *Project on the effects of gas in underground storage facilities for radioactive waste* (PEGASUS project), Proceedings of a progress meeting, Rapolano Terme 14-15 June 1995; CEC R&D Programme on Management and Storage of Radioactive Waste, EUR 16746 EN, 151-166.
- RS3. Lombardi S., **Etiopo G.**, Guerra M., Ciotoli G., Grainger P., Duddridge G.A., Gera F., Chiantore V., Pensieri R., Grindrod P., Impey M.D. (1996). The refinement of soil gas analysis as a geological investigative technique. *CEC Final report, 4th CEC R&D Programme on Management and Storage of Radioactive Waste*, Part A, Task 4: "Disposal Rad. Waste"; EUR 16929 EN, pp.193.
- RS4. **Etiopo G.**, Lombardi S., Duddridge G.A., Grainger P., Gera F., Chiantore R., Pensieri R., Grindrod P., Humm J.P., Impey M.D. (1995). The refinement of soil gas analysis as a geological investigative technique: soil-gas surveys and injection tests as tools for gas migration studies in real geologic scenarios. In: *Project on the effects of gas in underground storage facilities for radioactive waste* (PEGASUS project), Proceedings of a progress meeting, Exeter 26-27 May, 1994; CEC R&D Programme on Management and Storage of Radioactive Waste, EUR 16001 EN.
- RS5. Ambrosetti P., Barbieri M., Basilici G., Bozzano F., De Pari P., Di Filippo M., Di Maio R., Duddridge G.A., **Etiopo G.**, Grainger P., Lombardi S., Mottana A., Patella D., Pennacchioni E., Ruspandini T., Scarascia Mugnozza G., Sordoni G., Tazioli S., Toro B., Valentini G., Zuppi G. (1995). Analysis of the geoenvironmental conditions as morphological evolution factors of the sand-clay series of the Tiberine Valley and of the Dunarobba forest preservation. *Proceedings MIRAGE project meeting*, Brussels, October, 1993 - Final Report, EUR 15914 EN, pp. 171-180.
- RS6. Lombardi S., **Etiopo G.**, Gera F., Chiantore R., Pensieri R., Grainger P., Duddridge G.A., Grindrod P., Impey M.D. (1994). The refinement of soil gas analysis as a geological investigative technique. Preliminary comparison between soil-gas, structural and geophysical studies. In: *Project on the effects of gas in underground storage facilities for radioactive waste* (PEGASUS project), Proceed. of a progress meeting, Koln 3-4 June, 1993; CEC R&D Progr. on Managem. and Storage of Rad. Waste, EUR 15734 EN.

National journals and proceedings (n. 16)

1. Ma X., Zheng G., Guo Z., **Etiopo G.**, Fortin D., Sano Y. (2014). Estimation of greenhouse gas flux from mud volcanoes in the Dushanzi area, southern Junggar Basin of Northwest China. *Chin. Sci. Bull.* (Chin. Ver.), 59, doi: 10.1360/N972014-00361
2. Marinaro G., **Etiopo G.**, Favali P., Beranzoli L., Gasperini L., Gasparoni F., Furlan F., Geli L., Henry P., Çagatay N. (2008). The SN-4 observatory in the Marmara Sea. *Rendiconti online Soc. Geol. It.*, 3, 1-3.
3. Favali P., **Etiopo G.**, Fogliani F., Trincardi F. (2007). Pericolosità e impatto ambientale di emissioni costiere di gas naturale. Terzo Forum Nazionale, Pianificazione e tutela del territorio costiero. Questioni, metodi, esperienze a confronto (Ambiente & Territorio). Ed. Ferrucci E.M., Rimini, 29 Marzo 2007, Maggioli Ed., 530 pp.
4. Baciu C., **Etiopo G.**, Cuna S., Cosma C., Costin O. (2003). Importanta surselor geologice pentru bugetul azelor cu efect de sera din atmosfera terestra. *Environment & Progress 2003*, Presa Universitara Clujeana, Cluj Napoca 2003, 19-22.
5. Braun T., Beranzoli L., Calcara M., D'Anna G., De Santis A., Di Mauro D., **Etiopo G.**, Favali P., Frugoni F., Fuda J. L., Gamberi F., Marani M., Millot C., Montuori C., Romeo G., Smriglio G. (2000). GEOSTAR: risultati scientifici della prima missione nel mar Adriatico (agosto - settembre 1998). *Proceedings of 18th Convegno del Gruppo Nazionale di Geofisica della Terra Solida*, (9-11 November 1999, Roma), on GNGTS web site, CD-ROM.
6. Beranzoli L., Calcara M., De Santis A., **Etiopo G.**, Favali P., Frugoni F., Palangio P., Romeo G. and Smriglio G. (1998): Geophysical and Environmental Researches through Geostar and Related Activities. *Proceedings of 79^o Congresso Nazionale della Società Geologica Italiana*, Palermo, Italy, 21-23 September, 1998; vol. A, 158-161
7. **Etiopo G.**, Calcara M., Quattrocchi F. (1997). Il metodo della scatola d'accumulo per la misura del flusso di gas dal terreno all'atmosfera. *Pubblicazione ING*, n. 583 pp.21.
8. **Etiopo G.** (1996). Migration and behaviour of "geogas" in clay basins. *Plinius*, 15, 90-94
9. **Etiopo G.** (1996). Linea per l'estrazione dei gas disciolti nelle acque sotterranee. *Pubblicazione ING* n. 573, 21 pp.

10. GEOSTAR Group (1995). GEOSTAR, Il primo osservatorio europeo per ricerche geofisiche e oceanografiche a profondità abissali. *Atti 14° Convegno Annuale del Gruppo Nazionale di Geofisica della Terra Solida*, 723-726.
11. Ciotoli G., **Etiopo G.**, Gambino P., Lombardi S. (1994). Elio e radon nei gas del suolo quali traccianti di discontinuità tettoniche: confronto con l'analisi del campo di fratturazione nella valle dell'Ofanto (Appennino meridionale). *Geologica Romana*, 30, 761-768.
12. Lombardi S., **Etiopo G.** (1994). Helium and radon soil-gas as tracers of active and seismic tectonic structures in Italy. *Atti del Colloquio Scientifico sulla Protezione Sismica*, Venezia, luglio 1993.
13. **Etiopo G.**, Lombardi S. (1994). Lo studio dei gas endogeni nelle ricerche geologiche e ambientali. *Atti del 1° Convegno Energia, Clima e Ambiente*, Cittadella del Capo (Cs), 6-8 maggio 1994, 95-100.
14. Ciotoli G., **Etiopo G.**, Lombardi S., Naso G., Tallini M. (1993). Geological and soil-gas investigations for tectonic prospecting: preliminary results over the Val Roveto fault (Central Italy). *Geologica Romana* 29, 483-493.
15. Bovi M., Sciocchetti G., Porcu I., Lombardi S., **Etiopo G.**, Orlando P., Altieri A. (1992). Metodiche di monitoraggio per la caratterizzazione del potenziale radon dei siti edilizi. *ARIA 92, La qualità dell'aria negli ambienti interni*, 47-59.
16. Ciotoli G., **Etiopo G.**, Gambino P., Lombardi S. (1992). Elio e radon nei gas del suolo quali traccianti di discontinuità tettoniche: confronto con l'analisi del campo di fatturazione nella valle dell'Ofanto (Appennino meridionale). "° Convegno Nazionale dei Giovani Ricercatori di Geologia Applicata, Viterbo 28-31 Ottobre 1992, Gruppo Nazionale di Geologia Applicata.

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