CURRICULUM VITAE

Dr. Massimo CHIAPPINI

Place and date of birth: Frosinone, Italy; Sept. 12, 1960

Official address:
Istituto Nazionale di Geofisica e Vulcanologia (INGV)
Vigna Murata 605
I - 00143 Roma, Italy
+39-06-51860313 (voice)
+39-06-36915617 (fax)
massimo.chiappini@ingv.it

mobile: +39 335 415270

Research Director, Head of "Methodologies of Environmental Geophysics" Unit and Airborne Geophysics Science Team of INGV.

Between 2004 and 2007 Dr. Chiappini has been head of the INGV President's Advisory Committee and project coordinator of the Istituto Nazionale di Geofisica e Vulcanologia (INGV).

Completing his Dr. degree (magna cum laude) at the First University of Rome "La Sapienza" in Earth Physics (1989-90), Dr. Chiappini joined the INGV in 1992. He is author and co-author of over about 50 scientific peer-reviewed papers in international journals. He is the Principal Investigator of several bilateral and multilateral international joint projects aimed at crustal studies and geomagnetic research.

Dr. Chiappini has experience in the geophysical techniques aimed at exploration, environmental, and risk mitigation purposes, cooperating with National and international Authorities. Also, in the last 10 years, he has developed a wide experience in field activity in extreme environmental conditions, participating to 9 Antarctic Research expeditions. During these field activities, along with the project coordination, Dr. Chiappini has conducted, inter alia, multidisciplinary geophysical investigations in harsh conditions, and surveyed large areas with ground-based and airborne geophysical techniques. He has realized and led, in the last few years, the INGV Airborne Geophysics Lab, the Airborne Geophysics Science Team which has conducted several surveys in various areas in the world (Croatia, Kazakhstan, New Zealand, Spain, Hungary, Antarctica, etc.), and produced a wide scientific literature.

Currently Dr. Chiappini focuses his research activity on:

- investigating the utility of measured magnetic anomaly fields for obtaining new insight on the properties and processes of the Earth's crust. Such insight is important for improving our knowledge of the evolution in space and time of the outer part of the Earth, including its atmosphere, biosphere, mineral and energy resources, and crustal hazards (e.g., earthquakes, landslides, volcanic activity).
- Integrating satellite, airborne and surface geophysics for crustal studies, including polar areas. The objective for the production of potential field anomaly compilation is to obtain enhanced insight on the evolution and features of the crust. This is particularly important in Antarctica, in the Arctic, and in remote areas.
- Environmental geophysics. Geophysics is always more often being involved in numerous environmental studies. The role of geophysics ranges from the contribution to a better

understanding of the mechanisms involved, to the development of new methods of diagnosis, as well as methods to be carried out in close coordination with the aims of the national and international environmental policy objectives. Geophysical techniques can often provide a non-invasive means of obtaining the required information to detect the presence of buried waste containers, discarded objects, and various artifacts. The detection and quantitative estimate of the mass of buried material is playing an essential role in investigations addressed to environmental subjects.

M. Chiappini is co-editor of several scientific international Journals, chairman of numerous sessions at the General Assembly of the European Geophysical Society, the American Geophysical Union and the IUGG. In addition he is member of the Italian Delegation attending the Working Group of experts at the United Nations for the build-up of the verification system of the Comprehensive Nuclear Test-Ban Treaty (CTBT), Head of the CTBT implementation in Italy, member of the National Scientific Committee of Geophysics in Antarctica, scientific adviser of the Italian Ministry of Foreign Affairs, member of the joint scientific Committee INGV-Alfred Wegener Institute (AWI).

Academic-related experience

Lecturer at the United Nations in Vienna on geophysical techniques for on-site inspectors;
Contract-professor of Physics for geologists at University of Chieti (2000-2002);
invited lecturer of geophysics at Masters in Geophysics (1999-2004);
tutor of several PhD. Theses at University of Bologna and University of Rome;
tutor of several Master Theses (Univ. of Rome, Univ. of Naples, Univ. of Pisa);
review panel of European PhD Theses (2003);

Short selection of papers published since 2000

1.a CHIAPPINI, M., A. MELONI, E.BOSCHI, O. FAGGIONI, N. BEVERINI, C. CARMISCIANO, and I. MARSON, Shaded relief magnetic anomaly map of Italy and surrounding marine areas, , *Annali di Geofisica,* Vol. 43, N. 5, 983-989, 2000

2.a CHIAPPINI, M, CARMISCIANO, C., FAGGIONI, O., Geo-electromagnetic Research Aids Geo-Hazards Mitigation, *EOS Trans. Am. Geophys. Union*, Vol. 83, N. 11, 119, 2002.

3.a TORTA, J.M., A. DE SANTIS, CHIAPPINI, M. and R.R.B. VON FRESE, A model of the secular variation of the geomagnetic field for Antarctica, *Tectonophysics*, 347, 179-187, 2002.

4.a FOLCO, L., CAPRA, A., CHIAPPINI, M., FREZZOTTI, M., MELLINI, M., and I. TABACCO, The Frontier Mountain Meteorite Trap (Antarctica), *Meteoritics and Planetary Sci*., 37, 209-228, 2002.

5.a CHIAPPINI M.,. GREGORI G.P., PAPARO G. BELLECCI C., CRISCI G.,DE NATALE G., FAVALI P., MARSON I., MELONI A., ZOLESI B., and E. BOSCHI, Stromboli: A natural laboratory of environmental science, *J. Volcanol. Geotherm. Res.*, 113, 394-407, 2002.

6.a CHIAPPINI M., FERRACCIOLI F., BOZZO E., and D. DAMASKE, Regional compilation and analysis of aeromagnetic anomalies for the Transantarctic Mountains-Ross Sea sector of the Antarctic, *Tectonophysics*, 347, 121-137, 2002.

7.a CHIAPPINI, M., and SPERANZA, F., The new magnetic map of Italy at sea level: implications for the deep structural style of the Apennine belt, *Boll.. Soc. Geol. Ital*., Vol. 1, 13-23, 2002.

8.a SPERANZA, F. and CHIAPPINI, M., Thick-skinned tectonics in the external Apennines, Italy: new evidence from magnetic anomaly analysis, *J. Geophys. Res.*, vol. 107, No. B11, 2290, doi:10.1029/2000JB000027, 2002.

9.a SUPPER, R., R. DE RITIS, K. MOTSCHKA and M. CHIAPPINI (2004), Aeromagnetic anomaly images of Vulcano and Southern Lipari Islands (Aeolian Archipelago, Italy), *Annals of Geophysics*, 47, 1803-1810

10.a DE RITIS R., I. BLANCO, G. VENTURA, M. CHIAPPINI, Aeromagnetic data provide new insights on the volcanism and tectonics of Vulcano Island and offshore (Southern Tyrrhenian Sea, Italy), *Geophysical Research Letters*, Vol. 32, L15305, doi:10.1029/2005GL023465, 2005.

11.a NICOLOSI, I., F. SPERANZA, and M. CHIAPPINI, Ultrafast oceanic spreading of the Marsili basin, southern Tyrrhenian Sea: Evidence from magnetic anomaly analysis, *Geology*, 34 (9), 717-720, doi: 10.1130/G22555.1, 2006.

12.a NICOLOSI I., BLANCO-MONTENEGRO I., PIGNATELLI A., CHIAPPINI M., Estimating the magnetization direction of crustal structures by means of an equivalent source algorithm, *Phys. Earth Planet. Int.*, Vol. 155, 163-169, 2006.

13.a TOZER R. S. J., BUTLER R. W. H., CHIAPPINI M. , CORRADO S. , MAZZOLI S. , SPERANZA F., Testing thrust tectonic models at mountain fronts: where has the displacement gone?, *Journal of the Geological Society of London*, Vol 163, 1-14, 2006.

14.a D. RAVAT, A. PIGNATELLI, I. NICOLOSI AND M. CHIAPPINI, A study of spectral methods of estimating the depth to the bottom of magnetic sources from near-surface magnetic anomaly data, *Geophys. J. Int.*, doi: 10.1111/j.1365-246X.2007.03305.x 169, 421–434, 2007.

15.a BLANCO-MONTENEGRO I. R. DE RITIS, M. CHIAPPINI, Imaging and modelling the subsurface structure of volcanic calderas with high-resolution aeromagnetic data at Vulcano (Aeolian Islands, Italy), *Bull. Volcanol.*, doi 10.1007/s00445-006-0100-7, 2007

16.a R. DE RITIS, G. VENTURA AND M. CHIAPPINI**,** Aeromagnetic anomalies reveal hidden tectonic and volcanic structures in the central 1 sector of the Aeolian Islands, Southern Tyrrhenian Sea, Italy, *Journal of Geophysical Research*, VOL. 112, B10105, doi:10.1029/2006JB004639, 2007.

17.a BLANCO-MONTENEGRO, I., NICOLOSI, I., PIGNATELLI, A., and CHIAPPINI, M., Magnetic imaging of the feeding system of oceanic volcanic islands: El Hierro (Canary Islands), *Geophys. J. Int.*, Vol. 173, 1, 339-350, 2008.

18.a GARCÍA, A., CHIAPPINI, M., SÁNCHEZ, N., BLANCO-MONTENEGRO, I., CARLUCCIO, R., D'AJELLO CARACCIOLO, F., DE RITIS, R., NICOLOSI, I., PIGNATELLI, A., High resolution aeromagnetic survey of Tenerife (Canary Islands), *Annals of Geophysics*, Volume: 50 Issue: 5 , 689-697, 2008

19.a F. SPERANZA, I. NICOLOSI, N. RICCHETTI, G. ETIOPE, P. ROCHETTE, L. SAGNOTTI, R. DE RITIS, AND M. CHIAPPINI, The "Sirente crater field," Italy, revisited, J. Geophys. Res., 114, B03103, doi:10.1029/2008JB005759, 2009.

20.a C. MAGGI, A. FREPOLI, G.B. CIMINI, R. CONSOLE' AND M. CHIAPPINI, Recent seismicity and crustal stress field in the Lucanian Apennines and surrounding areas (Southern Italy): Seismotectonic implications, *Tectonophysics*, Vol. 463, Issues 1-4, 1, 130-144, 2009.