

## Maria Bonsignore, PhD

### Personal information

**Name:** Maria

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### Profile

Since 2011 my research focused on marine biogeochemistry, with special regards to the biogeochemical cycle of mercury in coastal marine environment affected by anthropogenic activities. The main objectives of my research are to explore sources, pathways and mechanisms of mercury transfer from environment to ecosystems and humans.

### Education

-PhD in Geochemistry (25/03/2014) at the “Dipartimento di Scienze della Terra e del Mare (DiSTEM)” of the University of Palermo, with a thesis titled: “*The biogeochemical cycle of Hg in the Augusta Bay*” under the supervisor of Doctor Mario Sprovieri (IAMC-CNR) and Prof. Paolo Censi (University of Palermo).

-University degree in Environmental Sciences (30/03/2010), graduated with honors (110/110).

### Working experience

-Post-doctoral research fellowship at the IAMC-CNR of Capo Granitola on the topic: “*Study of the pathways and the processes of transfer of Hg from the environment to humans in the Augusta and Milazzo study cases*” (Period: 10/03/2017-09/03/2018).

-Research fellowship at the IAMC-CNR of Capo Granitola on the topic: “*The biogeochemistry of mercury in coastal-marine areas; impact on fish compartment and human health*” (Period: 2/7/2013-31/09/2016).

-Term contract researcher at the IAMC-CNR of Capo Granitola focused on: “*Study of the effects of mercury contamination in the Augusta Bay fish compartment*” (Period: 05/01/2012- 07/07/2012).

### Other working experience

-Short Term Mobility 2016 (Period: 15/9-5/10/2016) at the Institute of Environmental Sciences Jožef Stefan (IJS) of Lubiana (Slovenia) under the supervision of Prof. Milena Horvat. Subject : “*Use of mercury isotopes as tracers of sources and biogeochemical processes*”.

-Stage at the IAMC-CNR of Mazara del Vallo (Period: October- November 2008) (N° 981/Gio del 19/05/2010) on the age determination of european anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilchardus*) by means of the annual growth patterns reading of otoliths (sagittae) using microscope.

-Stage at the IAMC-CNR of Mazara del Vallo (Period: July-September 2006) at the IAMC-CNR of Mazara del Vallo (Prot. N° 982/Gio del 19/05/2010) on micro-increment daily growth of anchovy as validation tool for first annual ring. Readings and interpretation of daily micro-increment growth were carried out by transmitted visible lights based on scanning electron microscopy or higher resolution microscopy.

### List of publications

-Daniela Salvagio Manta, Maria Bonsignore, Elvira Oliveri, Marco Barra, Giorgio Tranchida, Luigi Giaramita, Salvatore Mazzola, Mario Sprovieri. *Fluxes and the mass balance of mercury in Augusta Bay (Sicily, southern Italy)*. Estuarine, Coastal and Shelf Science. 181 (2016) 134-143

-Oliveri, E., Salvagio Manta, D., Bonsignore, M., Cappello, S. Tranchida, G. Bagnato, E. Sabatino, N. Santisi, S. Sprovieri, M. *Mobility of mercury in contaminated marine sediments: biogeochemical pathways*. Marine Chemistry 186

-Bonsignore, M., Sprovieri, M., Andolfi, N., Madeddu, A., Francesco, T., Ingallinella, V., Maria, C., Barra, M. *Letter to the Editor, “Assessment of mercury exposure in human populations: A status report from Augusta Bay (southern Italy)”* Environmental Research. In press, corrected proof <http://dx.doi.org/10.1016/j.envres.2016.05.026> 0013-9351/& 2016.

-Bonsignore, M., Andolfi, N., Quinci, E. M., Madeddu, A., Francesco, T., Ingallinella, V., Maria, C., Sprovieri, M. *“Evaluation of mercury exposure in populations living near the industrial Augusta Bay”*. Valutazione dell'esposizione al mercurio nelle popolazioni residenti in prossimità dell'area industriale della Rada di Augusta. Epidemiol Prev 2016; 40

-Bonsignore M., Andolfi, N., Barra, M., Madeddu, M., Tisano, F., Ingallinella, V., Castorina, M., Sprovieri, M. *Assessment of mercury exposure in human populations: A status report from Augusta Bay (southern Italy)*. Environmental Research, Special Issue: Human biomonitoring. In Press, Corrected Proof, Available online 19 January 2016. DOI: 10.1016/j.envres.2016.01.016.

-Bonsignore M., Tamburrino S., Oliveri E., Marchetti A., Durante C., Berni A., Quinci E., Sprovieri M. “*Tracing mercury pathways in Augusta Bay (southern Italy) by total concentration and isotope determination*”. Environmental Pollution (2015), <http://dx.doi.org/10.1016/j.envpol.2015.05.033>

-Bonsignore M., Salvagio Manta D., Oliveri E., Sprovieri M.\*, Basilone G., Bonanno A., Falco F., Traina A. and Mazzola S. “*Mercury in fishes from Augusta Bay (southern Italy): risk assessment and health implication*” Food and Chemical Toxicology 56 (2013) 184–194.

-Bagnato E., Sprovieri M., Barra M., Bitetto M., Bonsignore M., Calabrese S., Di Stefano V., Oliveri E., Parello F. and Mazzola S. “*The sea-air exchange of mercury (Hg) in the marine boundary layer of the Augusta basin (southern Italy): concentrations and evasion flux*”. Chemosphere 93 (2013) 2024–2032.

### Chapters in books

-Bonsignore, M. Salvagio Manta, D., Falco, F., Traina, A., Mazzola, S. *Il mercurio e la fauna ittica*. Capitolo 10, pp. 89-110. CNR Edizioni, 2015. ISBN 978-88-8080-153-5.

-Bonsignore, M., Tamburrino, S., Oliveri, E., Mazzola, S. *Applicazione degli isotopi stabili di mercurio come traccianti di sorgenti e processi nella Rada di Augusta*. Capitolo 16, pp. 187-196. CNR Edizioni, 2015. ISBN 978-88-8080-153-5.

-Salvagio Manta, D., Bonsignore, M., Oliveri, E., Di Stefano, V. *Flussi di Hg dai sedimenti alla colonna d'acqua*. Capitolo 11, pp. 111-123. CNR Edizioni, 2015. ISBN 978-88-8080-153-5

-Oliveri E., Salvagio Manta, D., Tranchida G., Giaramita, L., Bonsignore, M. *Caratterizzazione chimica fisica dei sedimenti*. Capitolo 7, pp. 57-68. Inquinamento ambientale e salute umana. CNR Edizioni, 2015. ISBN 978-88-8080-153-5.

-Oliveri E., Salvagio Manta, D., Bonsignore, M. Tranchida G. *Il mercurio nei sedimenti*. Capitolo 8, pp. 69-76. Inquinamento ambientale e salute umana. CNR Edizioni, 2015. ISBN 978-88-8080-153-5.

-Salvagio Manta, D., Bonsignore, M., Del Core, M. *Il mercurio nella colonna d'acqua*. Inquinamento ambientale e salute umana. Capitolo 9, pp. 77-87. CNR Edizioni, 2015. ISBN 978-88-8080-153-5.

-Basilone, G., Bonanno, A., Patti, B., Gancitano, S., Caruana, L., Bonsignore, M., Aronica, S., Tranchida, G. *Juvenile anchovy, *Engraulis encrasicolus*, habitat conditions and daily growth in the Central Mediterranean Sea*. “Volume mare” Dipartimento Terra e Ambiente del CNR, pp. 2057-2072 (DTA). ISSN 2239-5172.

### PhD thesis

-Bonsignore M., Sprovieri M. “*The biogeochemical cycle of mercury in the Augusta Bay*” PhD thesis url:10447/91305

### Conferences and conventions

-Bonsignore M., Tamburrino S., Marchetti A., Durante C., Berni A., Mazzola S. and Sprovieri M. “*Mercury isotopes to explore sources and fate of Hg in the environment: the case study of the Augusta Bay (southern Italy)*”. “8th International Symposium on Ecosystem Behavior (BIOGEMON)”-University of Bayreuth, Germany July 13th – 17th, 2014-oral presentation- Book of Abstracts; Stefan Holzheu & Birgit Thies (eds.) Pag. 250. ISSN: 0944 - 4122 Band 119 / 2014.

-Gagliano, A. L., Calabrese, S., Daskalopoulou, K., Cabassi, J., Capeccchiacci, F., Tassi, F., Bonsignore, M., Sprovieri, M., Kyriakopoulos, K., Bellomo, S., Brusca, L. and D'Alessandro, W. “*Mobility of mercury in the volcanic/geothermal area of Nisyros (Greece)*”. EGE2016: 14TH INTERNATIONAL CONFERENCE OF THE GEOLOGICAL SOCIETY OF GREECE. 25-27 Maggio 2016. Speaker: Kyriaki Daskalopoulou.

-Bagnato, E.; Sprovieri, M.; Bitetto, M.; Bonsignore, M.; Calabrese, S.; Di Stefano V., Oliveri, E., Parello, F. Mazzola, S. “*Distribution and air-sea exchange of mercury (Hg) in polluted marine environments*”. EGU General Assembly 2012, held 22-27 April, 2012 in Vienna, Austria. p.12000.

-Calabrò M., Bonsignore M., Ferreri R. “*Fish populations growth and reproductive traits for the most important species*”