

IN MEMORY OF FRANCESCO MARIA TAMBERLICH  
(1965-2016)

On 08<sup>th</sup> April, Francesco passed away after a difficult fight with a terrible illness. But throughout that tragic period Francesco had always remained optimistic, smiling with colleagues and friends. He was a noble and selfless soul, always ready to help people. We lost a great colleague and overall a true Friend.

Born in Rome on 25<sup>th</sup> September 1965, he was a big fan of the Juventus Football Club and an expert in wine tasting. He was also an enthusiastic tennis player. We met Francesco in 1998 when we worked at the Marine Biology Laboratory of Trieste (LBM), and since then we spent almost 20 years together, sharing the same room.

Francesco studied at the Faculty of Biology at the University of Pisa. After his graduation on 3<sup>rd</sup> November 1993, he was employed in LBM of Trieste for CHN, Total Suspended Matter, microalgal culture and sedimentological analyses. There he discovered his love of the sea and participated in several oceanographic expeditions. Francesco was also a diver and an instructor in marine biology for scuba divers.

In 2005, we worked at the Regional Agency for the Protection of the Environment of Friuli Venezia Giulia (ARPA FVG) and he was assigned the referent position for ecotoxicological assay and elemental analyses. Francesco adopted an innovative application for the monitoring of sediment quality called the Sediment Quality Triad (SQT). This approach was applied in the Lagoons of Marano and Grado and nearby underwater sewage discharges as an assessment tool for evaluating the extent of sediment degradation resulting from contaminants released due to human activity. The evaluation focuses on three main components: sediment chemistry, sediment toxicity tests using aquatic organisms,

and macrozoobenthic communities. Although the SQT approach does not provide a cause-and-effect relationship linking concentrations of individual chemicals to adverse biological effects, it does provide an assessment of sediment quality commonly used to explain sediment characteristics quantitatively.

Anyway, Francesco's greatest passion was wine, and in 2008 he even obtained a certified sommelier qualification from the Italian Sommelier Association. We remember that time very well, for thanks to him we discovered the world of wine.

In 2014, our work focused on the environmental monitoring connected to channel dredging in the lagoon. We coordinated in particular the monitoring on the bivalve *Ensis minor*, a very important commercial stock influenced by dredging activity off the tourism plant in Lignano Sabbiadoro. In this occasion, Francesco proposed to test the condition index and air survival time of the mollusks in order to assess any stress condition for these organisms due to dredging activity in the surrounding area.

The last time we worked together it was in the laboratory, measuring these bivalve samples. The room was hot, and adding to that the noise of the equipment inside, the smell of the samples, the repetitive work of measuring a lot of specimens... We were so tired of that boring work, but suddenly Francesco said: who knows, maybe one day we will remember this moment as a happy time!

You were a wise man, Francesco, now we understand the meaning of that statement: whenever we are tired or bored while on the job, we should be nevertheless happy and grateful of the opportunity!

Grazie Maestro

Nicola Bettoso & Alessandro Acquavita

## Topic scientific contributions of F. M. Tamberlich

**Tamberlich, F.**, C.M. Salvi & B. Martinčić (2000): Filtration, assimilation and biodeposition of the clams *Tapes philippinarum* (Adams & Reeve) and *Tapes decussatus* L. (Jeffreys). *Oebalia*, 26, 63-74.

Martinčić, B., C. Salvi & **F. Tamberlich** (2000): Modello di carrying capacity applicato alle mitilicoltura in sospensione nel Golfo di Trieste. *Hydrores*, 16, 7-23.

Fonda Umani S., R. Amodio, V. Barbariol, E. Sdrigotti, C. Welker, P. Del Negro, **F. Tamberlich**, R. Long & F. Azam (2000): Spatial and temporal dynamics of transparent particles in the Gulf of Trieste (northern Adriatic Sea) and their relationship to bacterial ectohydrolase activities. *Eos. Trans. AGU*, 80(4), 192 p.

Del Negro, P., C. De Vittor, S. Predonzani, **F. Tamberlich**, R. Piani, F. Finocchiaro, P. Fanzutti & S. Fonda Umani (2001): Utilizzazione batterica dei solfati in sedimenti di ambiente salmastro (Lago di Sabaudia o di Paola – LT). *Biol. Mar. Medit.*, 8(1), 309-315.

- De Vittor, C., E. Sdrigotti, P. Del Negro, F. Aleffi, **F. Tamberlich** & S. Fonda Umani (2002): Organic carbon cycling in diatom-inhabited muddy sediments. *Eos. Trans. AGU*, 83(4), 213 p.
- Pecchiar, I., A. Bussani, M. Cabrini, M. Celio, S. Comisso, C. Falconi, **F. Tamberlich** & S. Fonda Umani (2003): Variazioni della produttività primaria e della biomassa autotrofa in relazione alle caratteristiche idrologiche delle masse d'acqua in due stazioni del Golfo di Trieste nel 2001. *Biol. Mar. Medit.*, 10(2), 1026-1031.
- Monti, M., A. Zrimec, A. Beran, M. Berden Zrimec, L. Drinovec, G. Kosi & **F. Tamberlich** (2005): Delayed luminescence of *Prorocentrum minimum* under controlled conditions. *Harmful Algae*, 4, 643-650.
- Tamberlich, F.**, M. Celio, A. Bussani, C. Comici, F. Voltolina & N. Burba (2006): Analisi della distribuzione temporale del carbonio organico e dell'azoto in fase particellata in acque influenzate da input fluviale. *Biol. Mar. Medit.*, 13(1), 185-191.
- Monti, M., P. Frisenda, **F. Tamberlich** & L. Talarico (2006): Influence of salinity on growth and fine structure of *Prorocentrum minimum* (Pavillard) Schiller 1933 under culture: preliminary results. *Biol. Mar. Medit.*, 13(1), 1029-1031.
- Aleffi, I.F., N. Bettoso, M. Celio, **F. Tamberlich**, S. Predonzani & V. Solis-Weiss (2006): Effects of suspended mussel culture on the macrozoobenthos in the Gulf of Trieste (northern Adriatic Sea, Italy). *Annales Ser. hist. nat.*, 16(2), 135-146.
- Fonda Umani, S., P. Del Negro, C. Larato, C. De Vittor, M. Cabrini, M. Celio, C. Falconi, **F. Tamberlich** & F. Azam (2007): Major inter-annual variations in microbial dynamics in the Gulf of Trieste (northern Adriatic Sea) and their ecosystem implications. *Aquat. Microb. Ecol.*, 46, 163-175.
- Tamberlich, F.**, A. Acquavita, L. Milani, I. Aleffi, S. Predonzani, L. Faresi & G. Mattassi (2007): Saggi biologici sui sedimenti marino costieri della regione Friuli Venezia Giulia: analisi dei risultati e criticità. *Biol. Mar. Medit.*, 14(1), 238-241.
- Onorati, F., G. Ruggiero, M.S. Sanguinetti, M. Ferrara, V. Belluria, P. Martini, F. Bandini, L. Facchin, T. Leoni, A.M. Celletti, M. Molina, S. Trichilo, E. Rossi, L. Brillì, S. Dilani, S. Comin, S. Manzo, S. Fabbri, G. Masciongo, R. Lo Re, R. Guerra, E. Di Gioia, F. Castiglioni, **F. Tamberlich**, D. Traldi, A. Pasteris & C. Grillo (2007): Interconfronto Nazionale sul test di inibizione della bioluminescenza di *Vibrio fischeri*. *Biol. Mar. Medit.*, 14(1), 86-90.
- Cibic, T., A. Acquavita, I.F. Aleffi, N. Bettoso, O. Blasutto, C. De Vittor, C. Falconi, J. Falomo, L. Faresi, S. Predonzani, **F. Tamberlich** & S. Fonda Umani (2008): Integrated approach to sediment pollution: a case study in the Gulf of Trieste. *Mar. Poll. Bull.*, 56(9), 1650-1657.
- Acquavita, A., S. Predonzani, G. Mattassi, P. Rossin, **F. Tamberlich**, J. Falomo & I. Valic (2010): Heavy metal contents and distributions in coastal sediments of the Gulf of Trieste (northern Adriatic Sea, Italy). *Water Air Soil Pollut.*, 211, 95-111.
- Sladonja, B., N. Bettoso, A. Zentilin, **F. Tamberlich** & A. Acquavita (2011): Manila Clam (*Tapes philippinarum* Adams & Reeve, 1852) in the Lagoon of Marano and Grado (northern Adriatic Sea, Italy): socio economic and environmental pathway of a shell farm. In: Sladonja, B. (eds.): *Acquaculture and the Environment - A Shared Destiny*, INTECH open access publisher, 51-78.
- Lipizer, M., C. De Vittor, C. Falconi, C. Comici, **F. Tamberlich** & M. Giani (2012): Effects of intense physical and biological forcing factors on CNP pools in coastal waters (Gulf of Trieste, northern Adriatic Sea). *Estuar. Coast. Shelf S.*, 115, 40-50.
- Mattassi, G., I.F. Aleffi, N. Bettoso, L. Milani & **F. Tamberlich** (2012): Applicazione di indici biotici negli ambienti di transizione e marino costieri del Friuli Venezia Giulia. *Biologia Ambientale*, 26(1), 3-14.
- Acquavita, A., J. Falomo, S. Predonzani, **F. Tamberlich**, N. Bettoso & G. Mattassi (2014): The PAH level, distribution and composition in surface sediments from a Mediterranean Lagoon: the Marano and Grado Lagoon (northern Adriatic Sea, Italy). *Mar. Poll. Bull.*, 81, 234-241.
- Acquavita, A., I.F. Aleffi, C. Benci, N. Bettoso, E. Crevatin, L. Milani, **F. Tamberlich**, L. Toniatti, P.L. Barbieri, S. Licen & G. Mattassi (2015): Annual characterization of the nutrients and trophic state in a Mediterranean coastal lagoon: the Marano and Grado Lagoon (northern Adriatic Sea). *Reg. Stud. Mar. Sci.*, 2, 132-144.
- Boscutti, F., I. Marcorin, M. Sigura, E. Bressan, **F. Tamberlich**, A. Vianello & V. Casolo (2015): Distribution modeling of seagrasses in brackish waters of Grado-Marano Lagoon (northern Adriatic Sea). *Estuar. Coast. Shelf S.*, 164, 183-193.