

Dott. GERARDO ABBANDONATO

01/05/2018–Present



Type B Fellowship – [Università degli Studi di Milano](#) (Italy)

In the frame work of noMAGIC project, development of a new generation of ion channel for a genuine remote control of channel activity in vivo by non-harmful stimuli.

01/02/2016–31/05/2017



Guest Scientist - [Bundesanstalt für Materialforschung und -prüfung Zweiggelände Adlershof Berlin](#) (Germany)

Analysis and characterization by FCS and Confocal Imaging of differently decorated and interacting-with-proteins nanoparticles, nanoclusters and quantum dots as delivery tools in living cells.

15/03/2016–15/03/2017



Researcher/Scientist - [CNR – NANO, Laboratorio NEST](#) Pisa (Italy)

Experimental study of biological systems through fluorescence microscopy techniques.

Fellowship (announcement BS 001/016 PI 21/01/2016).

01/01/2015–31/12/2015



Researcher/Scientist - [Foundation FIRE ONLUS](#), Rome (Italy)

Development of high sensitivity bioanalytical methods for the determination of morphologically different components in the subviral particle pool produced by HBV and diagnostic validation. (Fellowship call 2015).

01/09/2014–31/12/2014



Researcher/Scientist - [CNR – NANO, Laboratorio NEST](#) Pisa (Italy)

Experimental study of organization properties of the cellular plasma membrane by using fluorescence microscopy techniques. (Fellowship (announcement BS 006/2014 PI 21/07/2014)).

25/02/2014–24/08/2014



Researcher/Scientist- [Scuola Normale Superiore](#), Pisa (Italy)

In the framework of the FIRB project (prot. RBAP11X42L_03), implementation of molecular sensors able to measure chemical-physical parameters in living cells with high spatio-temporal resolution.

1/2010 – 1/2017



PhD in Biophysics - [Scuola Normale Superiore](#), Pisa (Italy)

Thesis: “[From the Photophysics of the Fluorescent Protein Chromophore to the Rational Design of Intracellular Biosensors](#)”

- Synthesis and complete photophysical/spectroscopical characterization of photomodulable and bioconjugable fluorescent sensors; - Study in living cells of molecular interactions and cellular mechanism by using microscopic techniques (confocal, FLIM, FRET, FCS).

09/2007 – 09/2009



Master’s Degree in Physical Chemistry – [Università di Pisa](#) (Italy)

Thesis: “Study of molecular properties of liquid-crystalline elastomers by ^2H NMR” <http://etd.adm.unipi.it/theses/available/etd-09152009-111335/>

09/2004 – 07/2007



Bachelor’s Degree in Chemistry – [Università di Pisa](#) (Italy)

Thesis: “Interaction of PEG with CsPFO/Water system: spectroscopic analysis through ^{19}F NMR and ^{133}Cs NMR”

<http://etd.adm.unipi.it/theses/available/etd-07252007-102755/>

Papers

- **Abbandonato G.**, Storti B., Cecchini, M., Signore G., Stöckl, M., Subramaniam, V., Nifosì R., Tonazzini, I., Bizzarri R., *Lipid-conjugated rigidochromic probe discloses membrane alteration in model cells of Krabbe disease* submitted.
- Storti, B., Margheritis, E., **Abbandonato, G.**, Domenichini, G., Dreier, J., Testa, I., Garau, G., Nifosì, R., Bizzarri, R., *Role of Gln222 in photoswitching of Aequorea Fluorescent Proteins: a twisting and H-bonding affair?* submitted.
- Tkhilaishvili T., Di Luca M., **Abbandonato G.**, Maiolo E. M., Klatt A. B., Reuter M., Möncke-Buchner E., Trampuz A., [Real-time assessment of bacteriophage T3 lytic activity versus biofilm-empeded Escherichia coli by isothermal microcalorimetry](#), In Press.
- **Abbandonato G.**, Polli D., Viola D., Cerullo G., Storti B., Cardarelli F., Salomone F., Nifosì R., Signore G., and Bizzarri R., [Simultaneous detection of environmental polarizability and viscosity by a single fluorescent probe in cells](#), Biophys. J, 2018, **114** (9): p. 2212–2220.
- **Abbandonato, G.**, Hoffmann, K., Resch-Genger, U., [Determination of Photoluminescence Quantum Yields of Semiconductor Quantum Dots with Fluorescence Correlation Spectroscopy](#), Nanoscale, 2018, 10, p. 7147-7154.
- **Abbandonato, G.**, Storti, B., Signore, G., Beltram, F., Bizzarri, R., [Quantitative Optical Lock-In Detection \(qOLID\) for quantitative imaging of switchable and non-switchable components](#), Microsc. Res. Tech, 2016. **79**(10): p.929-937.
- Battisti, A., Panettieri, S., **Abbandonato, G.**, Jacchetti, E., Cardarelli, F., Signore, G., Beltram, F., Bizzarri, R., [Imaging intracellular viscosity by a new molecular rotor suitable for phasor analysis of fluorescence lifetime](#). Anal Bioanal Chem, 2013. **405**(19): p. 6223-33.
- Signore, G. and **Abbandonato, G.**, Storti, B., Stockl, M., Subramaniam, V., Bizzarri, R., [Imaging the static dielectric constant in vitro and in living cells by a bioconjugable GFP chromophore analog](#). Chem Commun (Camb), 2013. **49**(17): p. 1723-5.
- **Abbandonato, G.**, Catalano, D., Domenici, V., Zalar, B., [²H NMR orientational study of a probe dissolved in nematic solution and, used as crosslinker, in a liquid crystalline elastomer](#). Liquid Crystals, 2012. **39**(2): p. 165-174.
- **Abbandonato, G.**, Signore, G., Nifosi, R., Voliani, V., Bizzarri, R., Beltram, F., [Cis-trans photoisomerization properties of GFP chromophore analogs](#). Eur Biophys J, 2011. **40**(11): p. 1205-14.
- **Abbandonato, G.**, Catalano, D., Marini, A., [Aggregation of perfluorooctanoate salts studied by 19F NMR and DFT calculations: counterion complexation, poly\(ethylene glycol\) addition, and conformational effects](#). Langmuir, 2010. **26**(22): p. 16762-70.

Books

- Chiappe, C., D'Andrea, F., **Abbandonato, G.**, [Tecniche spettroscopiche e identificazione di composti organici. Problemi svolti e da svolgere](#) (Translation: Spectroscopical Techniques and Identification of Organic Compounds. Solved and to solve problems), 2010, Pisa, ETS, ISBN: 978884672900-2