

## Research Institute for Geo-Hydrological Protection

in the Department of Earth System Sciences and Environmental Technology

an Institute of the Italian National Research Council (CNR)

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# Overcoming together the traumas produced by natural disasters

The teaching of the methodologies to process a traumatic memory as a mean to succor and sustain the victims of natural disasters

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A recent research has been carried out by Marco Pagani, researcher of the Institute of Cognitive sciences and technologies of the Italian National Research Council (Istc-Cnr) in Rome. The research has documented, with electroencephalographic monitoring techniques (EEG), the cerebral effects deriving from the re-processing of a traumatic memory (<https://www.cnr.it/it/news/5761/dall-emdr-un-aiuto-per-superare-i-traumi>). In particular, the research has offered, for the first time, an experimental validation of the theoretical-empirical hypotheses of Francine Shapiro about the psychophysical effects of traumatic memories.

Pagani's studies were conducted on a sample of people who were victims of the San Giuliano di Puglia earthquake in 2002. Pagani has shown how, by stimulating in those people the painful memory of the earthquake experienced, prefrontal and visual cerebral areas were activated. These are the areas that are commonly activated in presence of painful emotions. The sample of people under investigation has then carried out a re-processing of their traumatic memories of the earthquake, thanks to a group of operators who used the EMDR methodology proposed by Shapiro. Re-processing required only a few hours of work and has been carried out until each interested person said that he did not experience any more negative feelings in recalling the experience she has gone through. The sample was then again subjected to the same stimulus of the memory of the earthquake, repeating the EEG monitoring. This time the electroencephalographic analyses revealed the activation of the temporoparietal regions only. These latter are the brain regions that are associated to the cognitive and associative interpretation of the memories. No activation of the prefrontal and visual cerebral areas was observed in this case (<https://www.cnr.it/it/news/5761/dall-emdr-un-aiuto-per-superare-i-traumi>).

Pagani's researches have therefore provided an instrumental validation of the existence of unprocessed memories (the Italian acronym is RINOEL) and the possibility of resolving their effects. Such researches have particular relevance, given the earthquake that occurred in summer 2016 in the Amatrice area. As it has been demonstrated, the re-elaboration of a traumatic memory can in fact overcome the many negative consequences that the memory of such a trauma can cause in the population. Below is shown, as an example, the testimony of Mrs. Nunziatina Porrizzo

([http://www.rainews.it/dl/rainews/articoli/Come-superare-un-trauma-e-ritrovare-la-serenita-La-psicoterapia-EMDR-e8596180-910e-4657-b0b4-6c2fa0dba086.html?refresh\\_ce](http://www.rainews.it/dl/rainews/articoli/Come-superare-un-trauma-e-ritrovare-la-serenita-La-psicoterapia-EMDR-e8596180-910e-4657-b0b4-6c2fa0dba086.html?refresh_ce)) :

“After the death of my son I could no longer drive – said Nunziatina Porrizzo, mother of Luigi, who died at the age of seven under the ruins of San Giuliano's school – I could not remember what I had to do or what I had just done”. “The years went by, but I could not go back to my usual life, I suddenly felt pain in various parts of the body – explained Nunziatina – and instead, after just the first sessions of EMDR I immediately felt better, the memory is still there, but now I live it with serenity”.

## Results

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Some recent experimental researches, which also IRPI has contributed to, have led to a simplification of the procedure to re-process the RINOELs, enabling its teaching also to a public without specific professional qualifications. This possibility, if supported by further experimental tests, could have interesting applications for civil protection purposes. It could reduce the time needed to bring relief to the victims of natural calamities, teaching them to help each other. The simplified procedure to process traumatic memories allows results ([Testimony 1](#)) comparable to those deriving from the application of the protocol proposed by Shapiro (see, for example, Ms. Porrizzo's testimony above). The results also seem to be stable over time and the processing of a traumatic memory even seems to make the individual stronger if similar traumatic circumstances should occur again in the future ([Testimony 2](#)). The procedure has been repeatedly tested over the years with people who were victims not only of natural calamities, but also of car accidents



([Testimony 3](#)), fatal diagnosis ([Testimony 4](#)), severe mornings ([Testimony 5](#)), etc.. In each case, the procedure proved to be reliable and produced the expected results, bringing relief and resolving even cases of long-term pain, suffering and disturbance. Also the first tests that were carried out to train students without specific professional and/or cultural qualifications, have given excellent results, allowing to make the students competent and secure in a relatively short time.

During the experimentation of the didactic activity, it was also possible to see, among the participants, a significant improvement of the interpersonal relationships and the emergence of a strong spirit of solidarity. This beneficial side effect of the training activity could also be of extreme utility after earthquakes and other natural disasters. Therefore, further experimentations are planned, in particular with the inclusion of the treatment of RINOELs among the training offers proposed by the Foundation of the Order of Engineers of Turin (FOIT). The training will be provided by IRPI and will be also proposed to protected social categories, in particular to those who have lost their job.

Finally, the teaching and the consequent use of the simplified procedures for the reprocessing of RINOELs could find a useful opportunity for experimentation in resolving conflicts among the staff of a company. In fact, among those who have been involved in learning and using these procedures, there has been a remarkable increase of the level of tolerance and mutual understanding. Factors of extreme utility for the success and development of any productive activity.

## Granting institutions

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- Fondazione dell'Ordine degli Ingegneri della provincia di Torino (FOIT)

## To know more

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[Go to the whole video “Il trattamento del trauma a San Giuliano di Puglia...” »](#)

[Go to the article “Dall’Emdr un aiuto per superare i traumi” »](#)

[Go to the article “Come superare un trauma e ritrovare la serenità?...” »](#)

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