# HQR CARD - general & scientific background

### Body composition

75% of the building blocks of our body is water. Because the water molecule is very big, compared to other materials, the volume of the body is for 90% made by water. So water is essential and even more important and special as you should expect.

## Body water is a quasicrystal

Water acts as a crystal, and is functioning as an antenna for EMF (this used in a quartz watch, silicon in a computer).

Quartz crystals exhibit the same molecular geometry as structured water. Quartz is a network of inter-connected  $SiO_4$  tetrahedra. Structured water is a network of  $OH_4$  tetrahedra.

This is one reason water has the capacity to store and transfer information.

The newest computer chips are water based!



Fig.1 Top: The tetrahedral molecular structure of water as viewed from the side.

Bottom: The hexagonal pattern as viewed from the top.

Black dots represent oxygen atoms; white dots indicate hydrogen atoms.

## Exclusion zone water

In our body the molecule composition of drinking water is changed into a complete different context, called structured or organized water.

Organized water exist close to surfaces, such as found in blood vessels and cell membranes in general. When electrons are added to surfaces they become more hydrophilic and they form an exclusion zone (EZ) in water.

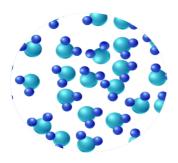
They are called exclusion zone because they exclude everything larger than the size of hydrogen, lowering the conductivity.

This EZ has a large net negative charge and becomes a battery in water for electromagnetic radiations. Quantum coherent water = water in its exclusion zone formation.

As a result of this exclusion by load, EZ (Exclusion Zone) water is the ultimate Faraday cage for the body cells and our energy cells, the mitochondria who are very sensitive because their nuclei with DNA are not protected by a wall.

Structured water is essential for the functioning of proteins, e.g., facilitating energy transfer from crystaline water to protein, influencing enzymatic reactions.

## Structured water: the Hofmeister effect



*Fig. 2a: chaotropic (unstructured, unclustered) water.* 



Fig. 3a: direct effect of mobile phone (EMF), on crystallization patterns, in an aqueous environment.

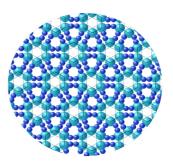


Fig. 2b: kosmotropic (structured, clustered) water .

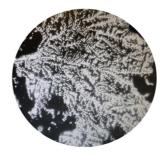


Fig. 3 b: effect of mobile phone (EMF) + HQR Card, on crystallization patterns in an aqueous environment.

Certain ions have additional water-structuring or destructuring properties, called the Hofmeister effect. *(Collins, K. D.; Washabaugh, M. W. The Hofmeister Effect and the Behavior of Water at Interfaces, Q. Rev. Biophys.).* 

Especially cations such as calcium and magnesium have a strong so-called cosmotropic (structuring) effect. The opposite effect is called chaotropic (unstructuring).

In a crystallization experiment in an aqueous environment, we have tested the effect of EMF radiation (mobile telephone) with and without a HQR card. See the microscopic photos above. Fig. 3a shows an unstructured image while Fig. 3b. shows a well organized crystallization pattern.

Pall states that EMF increases the inflow of cellular calcium *(M.L. Pall, Environmental Research, 2018).* The disruptive EMF effects on structured water clustering can be the first trigger, on the negative follow-up effects that EMF radiation can cause in our body.

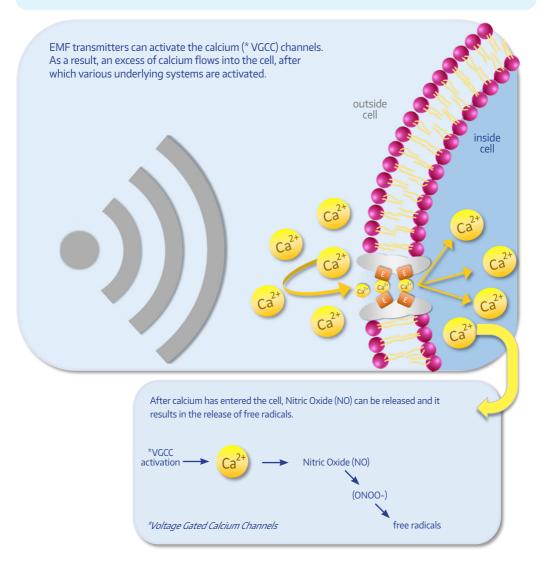
# Harmful non-thermal effects

Various studies show that under the influence of EMF radiation, an excess of calcium can flow into the cell. Subsequently, various systems are activated in the cell, which can lead to the release of so-called free radicals.

#### EMF effect on our health

M.L. Pall emeritus professor at Washington State University: Repeated studies show that exposure to EMF radiation causes sperm damage and neurological effects, EEG changes, cell death, DNA damage, endocrine changes and calcium overload. *(M.L.Pall, Environmental Research, 2018)* 

A number of neurological disorders that are associated to EMF radiation include sleep disorders, headache, fatigue, depressive symptoms, restlessness, stress, etc. *(M.L.Pall, Journal of Chemical Neuroanatomy, 2016)* 



If electromagnetic (EMF) effects do indeed influence the degree of structuring in water, then it is clear that they may have an impact on health.

The biological effects of microwaves, for example, have generally been analyzed in terms of their very small heating effects. However, it should be recognized that there might be significant non-thermal effects (for example, due to the imposed re-orientation of water at the surfaces of biomolecular structures such as membranes).

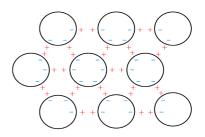
*M. Barteri, A. Pala and S. Rotella, Structural and kinetic effects of mobile phone microwaves on acetylcholin-esterase activity, Biophysical Chemistry, 113 (2005) 245-253.* 

# EMF interaction with water

Del Giudice and colleagues extended conventional quantum electrodynamics theory to the condensed phase of liquids.

It has been postulated that water molecules and the water molecule matrix can be considered to have quantum properties......clusters of organized water molecules in the cell provide an EMF receptive holo-fractal network.

(Geesink & Meijer, 2018e)



*Fig.* 4 *Spherical coherent domains forming a 3-dimensional dipole structure* 



Fig. 5 DNA double helix

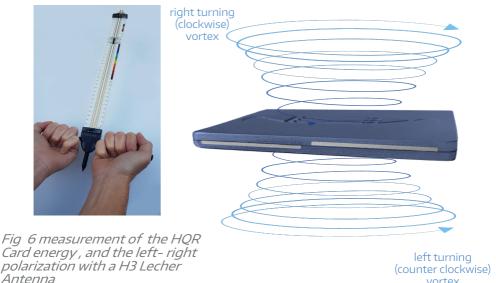
## Non-thermal EMF effects

In a paper based on 23 controlled scientific studies, various non-thermal EMF effects are listed: DNA damage, calcium overload, neurological and endocrine effects etc.

(M L Pall, Environmental Research, 2018)

## IN GENERAL: ALL QUANTUM PHYSICAL EFFECTS CAN ONLY INDIRECTLY BE DETECTED......but still....

We have confirmed that well trained (H3) Lecher Antenna, and pendulum users can detect, directly, the HQR Card energy, and the right turning vortex on the "upper" side and a left turning vortex on the opposite side of the HOR Card.



# vortex

# summary

Water has a unique crystalline matrix structure. The structure of this matrix is grounded on subtle, guantum mechanical influences. This guantum influence is with usual equipment not directly measurable, but the indirect consequences are evident. It has been shown that disharmonic EMF radiation can damage the protective water matrix structure.

We assume that disruption of the water matrix structure might be the primary cause of the negative EMF effects reported by various researchers. Our physical body consists for a very large part of water. (EMF) disruptions of the water matrix structure can in turn lead to disturbed cellular and biochemical processes.

Atoms and their subatomic, quantum physical particles are in permanent resonance. Electromagnetic radiation can negatively influence the natural and harmonic resonance of the water molecules at this level, and thereby disrupt the protective water matrix.

The HQR Card has been developped to restore the natural resonance of the water matrix structure. The potency and the resulting range of the Card, is partly due to the guantum physical aspect that underlies the concept of the HQR Card.