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My group investigates health effects of modern, man-made electromagnetic fields as well as the functional impairment electrohypersensitivity. I introduced the clinical term "screen dermatitis" to explain the cutaneous damages that developed in the late 1970's when office workers, first mostly women, began to be placed in front of computer monitors. I called for action along lines of occupational medicine, biophysics and biochemistry, as well as neuroscience and experimental dermatology. The working hypothesis early became that persons with the impairment electrohypersensitivity react in a cellularly correct way to the electromagnetic radiation, maybe in concert with chemical emissions such as plastic components, flame retardants, etc., in a highly specific way and with a completely correct avoidance reaction -- just as you would do if you had been exposed to e.g. sun rays, X-rays, radioactivity or chemical odours.

Nowadays, electrohypersensitivity (EHS) is in Sweden an officially fully recognized functional impairment (i.e., it is not regarded as a disease). Survey studies show that somewhere between 230,000-290,000 Swedish men and women -- out of a population of 9,000,000 -- report a variety of symptoms when being in contact with electromagnetic field sources. To this, one should also add all the current issues regarding the bigger picture: the health effects of electromagnetic fields on the general population.

I and my collaborators have, in addition, worked in great depth in areas such as skin diseases, cancer, child delivery, female urine incontinence, oral mucosa diseases, brain and spinal cord morphology, synaptology and chemical transmission, peripheral nervous system-related issues, cardiac function, skeletal muscle function and disease, and connective tissue ripening phenomena.

Selected Publications

Gangi S, Johansson O

A theoretical model based upon mast cells and histamine to explain the recently proclaimed sensitivity to electric and/or magnetic fields in humans
Medical Hypotheses 54: 663-671, 2000

Johansson O, Gangi S, Liang Y, Yoshimura K, Jing C, Liu P-Y

Cutaneous mast cells are altered in normal healthy volunteers sitting in front of ordinary TVs/PCs - results from open-field provocation experiments.
Journal of Cutaneous Pathology 28: 513-519, 2001

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Electrohypersensitivity: State-of-the-art of a functional impairment.
Electromagnetic Biology and Medicine 25: 245-258, 2006

Johansson O

Evidence for effects on the immune system.
In: The BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF) (eds. CF Blackman, M Blank, M Kundi, C Sage), 2007, Section 8, <http://www.bioinitiative.org/>