CLAIMS

1. A system for optimization of the stimulation pattern of a set of implanted electrodes in excitable tissue of a patient and for treatment or alleviation of disease or disorder, wherein said system comprises

- a set of electrodes having the ability to be implanted in excitable tissue of a patient,
- a stimulation device S connected to said set of electrodes and having the ability to stimulate said excitable tissue via said set of electrodes and to activate all electrodes of said set at the same time while increasing the stimulation strength,

a first computer program P1 connected to the stimulation device and having the ability to choose a group of electrodes from the set of implanted electrodes, to instruct the stimulation device to stimulate the tissue through the electrodes of said group, to transform a response provided by the patient to a value which is assigned to all the electrodes of the group, to calculate a total assigned value for each electrode, and to choose a preferred set of electrodes to be used for stimulation treatment, and

means for monitoring the energy consumption.

2. The system according to claim 1, further comprising

- a recording device R connected to said set of electrodes and having the ability to register an activity pattern in said excitable tissue,
- a second computer program P2 connected to the recording device and to the first computer program P1, and
- a database DB connected to said first computer program and to said second computer program,

wherein said second computer P2 program has the ability to compare information obtained from the recording device in view of the registered activity pattern in said excitable tissue with information in the database in the form of previously registered activity patterns for several patients regarding the effect of stimulation of the same or similar excitable tissue of said several patients, to choose a collection of useful

electrodes with the basis on said comparison of activity patterns, and to transform the information about the chosen electrodes to the first computer program, wherein said first computer program also has the ability to transmit the information provided by the patient to the database for storage.

3. The system according to claim 1 or 2, wherein the set of implanted electrodes comprises a plurality of microelectrodes.

4. The system according to anyone of claims 1 to 3, wherein the set of implanted electrodes comprises electrodes which have active sites for charge ejection located on different physical entities, preferably electrode arrays or electrode bundles in which several individual electrodes together make up an electrode device, or a probe.

5. The system according to any one of claims 1 to 4, further comprising a joystick, a touch screen, a tablet, a computer mouse and/or a trackball, wherein the joystick, touch screen, pad, computer mouse and/or trackball is used by the patient to provide the first computer program with information.

6. The system according to any one of claims 1 to 5, further comprising a device registering eye movements, wherein the device registering eye movements is used by the patient to provide the first computer program with information.

7. The system according to any one of claims 1 to 6, further comprising a screen device on which the implanted electrodes in the tissue are graphically represented.

8. The system according to any one of claims 1-7, wherein the disease or condition is chosen from the group consisting of brain and/or spinal damage, lost functions, pain, Parkinson's disease, tremor, motor disorders, choreatic and other involuntary movements, memory disorders, Alzheimer's disease, degenerative diseases, epilepsy, mood disorders, aggression, anxiety, phobia, affect, sexual over-activity, impotence, eating disorders, sleep disorders, such as narcolepsy, attention disorders, stroke, damage of the brain, damage of the spinal cord, bladder disorders after spinal cord injury, bowel disorders after spinal cord injury, spasticity, somatosensory disorders, auditory disorders, visual disorders, and olfactory disorders.