



NEUROCARE



POWERDREAMING

Electronic Pillow

NPD-2000 M1

A groundbreaking neural engineering product that induces and maintains good quality and highly efficient sleep within the brain



Inventor:
Professor Xiaoping Li, PhD

PRODUCT INTRODUCTION

Brief Introduction of the Product

The PowerDreaming Electronic Pillow NPD-2000 M1 is a groundbreaking breakthrough in Neural Engineering. The device targets the brain to induce and maintain good quality and highly efficient sleep. It is the first in a series of products based on a patented groundbreaking Neural Engineering core technology of NewroCare Institute Japan Co., Ltd., in which a special mild electric field is generated for non-contact and non-invasive interaction with the brain electric field, modulating the brain to induce sleep.

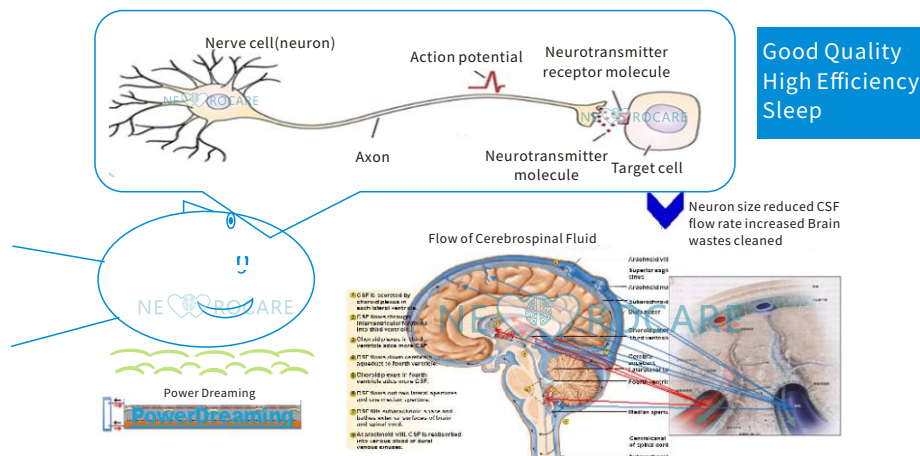
The Core Mechanism

The function of the brain's sleep mode is to clean all the waste generated by the neurons as well as the left over proteins that have not been consumed by the neurons during the brain's wake mode. This kind of cleaning is achieved with the aid of GABAergic neurons in the brain. The GABAergic neurons increase their level of excitation and fully release GABA to neurons throughout the brain, reducing the body sizes of the neurons and consequently increasing the flow rate of cerebrospinal fluid between the neurons, cleaning the waste surrounding the neurons.

The increase of excitation level of GABAergic neurons is a result of the balance of various neurotransmitters as well as their associated mild electric field in the brain. In the current light-polluted and communication-polluted modern society, the neurotransmitters in the human brain are hardly balanced to naturally transform the brain from its wake mode to its sleep mode, i.e. GABA is not adequately released in the brain, resulting in insomnia. This is an intrinsic biological defect of the human beings as a kind of single-brain animal: a single-brain is unable to manage its own sleep well.

In this world, only the dolphin is a dual-brain animal. The two brains of a dolphin take turns to be awake (working in the wake mode) and to be asleep (working in the sleep mode). The brain working in the wake mode manages the other brain's performance in its sleep mode well. Learning from the dolphin, shouldn't every human being acquire an "additional brain" to pair with his/her brain to manage its sleep mode well?

From this viewpoint in nature, the historical mission of the PowerDreaming electronic pillow is to work as the "additional brain" that pairs with the human brain to manage the brain sleep mode well. To do so, the PowerDreaming electronic pillow generates a special mild electric field that interacts with the brain electric field to facilitate and maintain its GABAergic neurons' excitation, fully releasing GABA to all neurons in the brain, inducing and maintaining the brain into good quality and high efficiency sleep. The PowerDreaming electronic pillow also allows the orexin neurons in the brain to monitor the completion of the sleep mode work and then to inhibit the excitation of GABAergic neurons, so that the brain wakes up naturally for wakefulness. Therefore, the PowerDreaming electronic pillow causes neither dependence nor withdrawal symptoms. The overall mechanism is shown in the diagram below:



Main Functions

To induce and maintain the brain into good quality and high efficiency sleep, and also let the brain naturally transform from its sleep mode to its wake mode after the brain has completed its work in the sleep mode.



Help to sleep



Improve sleep quality

Highlights

This product is the first in a series of products based on the patented groundbreaking Neural Engineering core technology of NewroCare Institute Japan Co., Ltd. The patented technology modulates brain activities by generating a special mild electric field (24V) matching that in the brain to interact with the brain electric field and to facilitate the brain to naturally transform from its wake mode to its sleep mode. The advantages of the product include:

7 Highlights



1. Non-drug action, **No change to brain cells, No drug tolerance**



2. Non-drug effects, **No substances added to the brain or body, No side effects**



3. Non-drug effects, **No drug dependence**



4. Non-drug effects, **Can be used together with any medications**



5. Non-drug effects, **No lethargy, No drowsiness morning after**

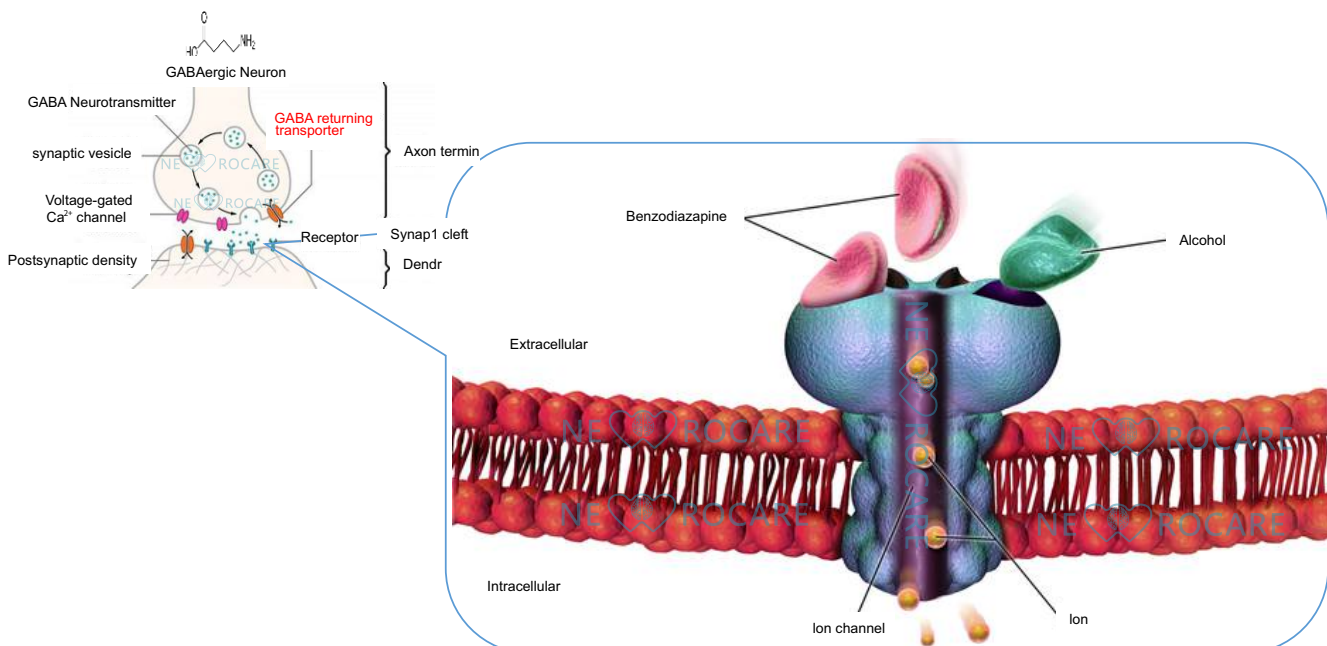


6. Non-drug effects, **Good for long-term use to ensure every day good quality and high efficiency sleep**



7. Non-drug effects, **No issue of expiration**

Please note that using chemical substances or alcohol to aid sleep will disturb the normal working mechanism of brain cells (see the GABA particles returning transportation function as shown in the figure below), damage brain cells, and cause addiction, lethargy or dizziness.

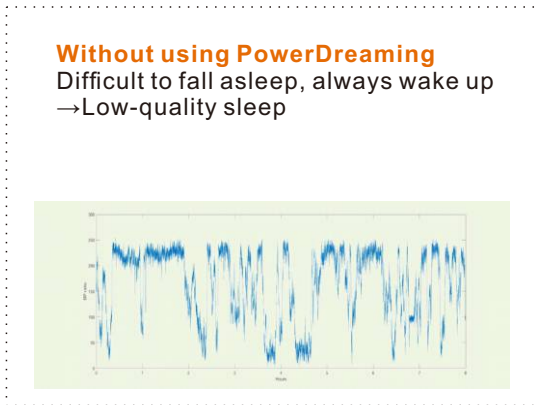
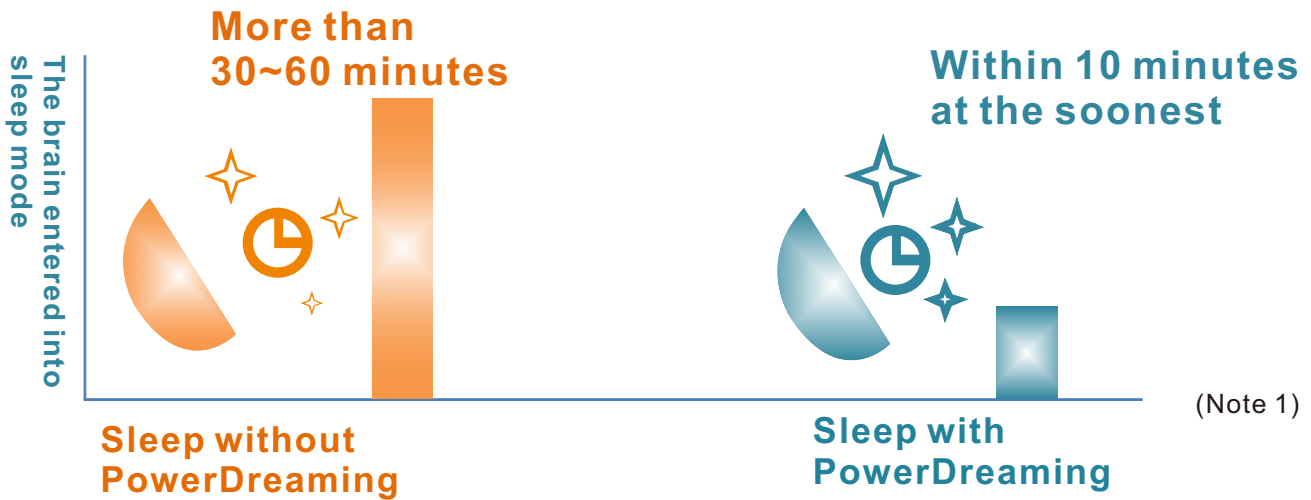




With PowerDreaming, restful, refreshing sleep comes with ease

For People Who?

- Have trouble sleeping
- Have difficulties in getting into sleep
- Wake up abruptly
- Wakeup early
- Shallow sleep



(Note 2)

Note 1: Note 2: This data comes from the NewroCare Institute Japan Co., Ltd.'s experimental statistics, different users may have differences, the data described on this page does not indicate any promises to the individual use results.

Safety

Certified by JET (Japan Electrical Safety & Environment Technology Laboratories): 17TR-K0470

The mechanism and design of PowerDreaming Electronic Pillow NPD-2000 M1 have ensured the safety of the product. It has the output voltage of 24V, and generates a mild electric field that matches the brain electric field.

Specifications:

Power adapter AC input	100-240V 2.3-1.1A 50/60Hz
Power adapter DC output	24V
Power adapter rated output current	3.5A
Weight of Controller	~3 kg
Dimension of Controller	266mm X 214mmX 53mm
Weight of Headrest	~1kg
Dimension of Headrest	300mm X 200mm X 25mm

Instruction of Use



Controller

Headrest

Easy to operate,
one button to sleep

1. The product consists of two parts: Controller and Headrest, connected by a Cable.
2. Place the Headrest under the middle of a pillow of 10-20 cm thickness, and place the Controller on a bedside table.
3. Connect the Controller to the provided power cord, turn on the power switch, and press the operation button to start the machine.
4. Lying on the bed, place your head on the middle of the pillow, and feel free to fall asleep.

Background of the Inventor

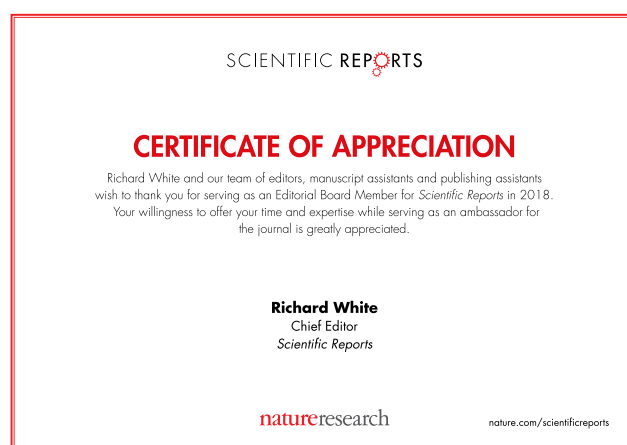
Professor Xiaoping Li, PhD



- Former Tenured Professor of Neural Engineering, National University of Singapore (1992-2016)
- Chief Scientist, NewroCare Institute Japan Co., Ltd.
- Editorial Board Member of "Scientific Reports of NATURE Publishing Group", for Neuroscience Field
- Special Adviser, Showa Nishikawa Institute of Sleep and Environmental Sciences, Japan
- The Ministry of Science and Technology of China invited overseas high-level expert
- Distinguished Professor, Tongji Medical College, Huazhong University of Science and Technology
- Distinguished Professor of Guilin University of Electronic Technology
- Founder Director of Institute of NeuroEngineering, GUET (2018)
- Founder Director, NeuroEngineering Laboratory, National University of Singapore (1998-2016)
- Visiting Professor, Tokyo Denki University (1997)
- Visiting Professor, Tokyo Institute of Technology (2000)
- Visiting Professor, Georgia Institute of Technology (2001)
- Visiting Professor, Tokyo Institute of Technology (2007)
- Visiting Professor, Johns Hopkins University (2008-2009)
- Visiting Professor, University of New South Wales (2012)
- Founded Singapore Institute of NeuroTechnology (SINAPSE) (2012)
- Visiting Professor, University of California, San Diego (2014)

Honors and Achievements

- Awarded and Completed more than US\$22 million for 45 Research Projects funded mainly by Singapore Defense Department and the United States Defense Advanced Research Projects Agency - DARPA
- Editorial Board Member of "Scientific Reports of NATURE Publishing Group", for Neuroscience Field
- Editor of Eight International Journals
- Reviewer for 28 International Journals
- Received 1997 Hitachi Global Fund Research Award
- Received 2000 Hitachi Global Fund Research Award
- Received 2007 Hitachi Global Fund Research Award
- Received Long-Term Service Award from the National University of Singapore
- Received the National University of Singapore Award for Outstanding Professor
- Inventor for more than 48 patents granted or in pending
- Chairman/Keynote Speaker of Organizing Committees for more than 100 International Academic Conferences
- Published more than 400 international peer-reviewed Journal Articles
- Author of three books published in the field of Manufacturing and NeuroEngineering



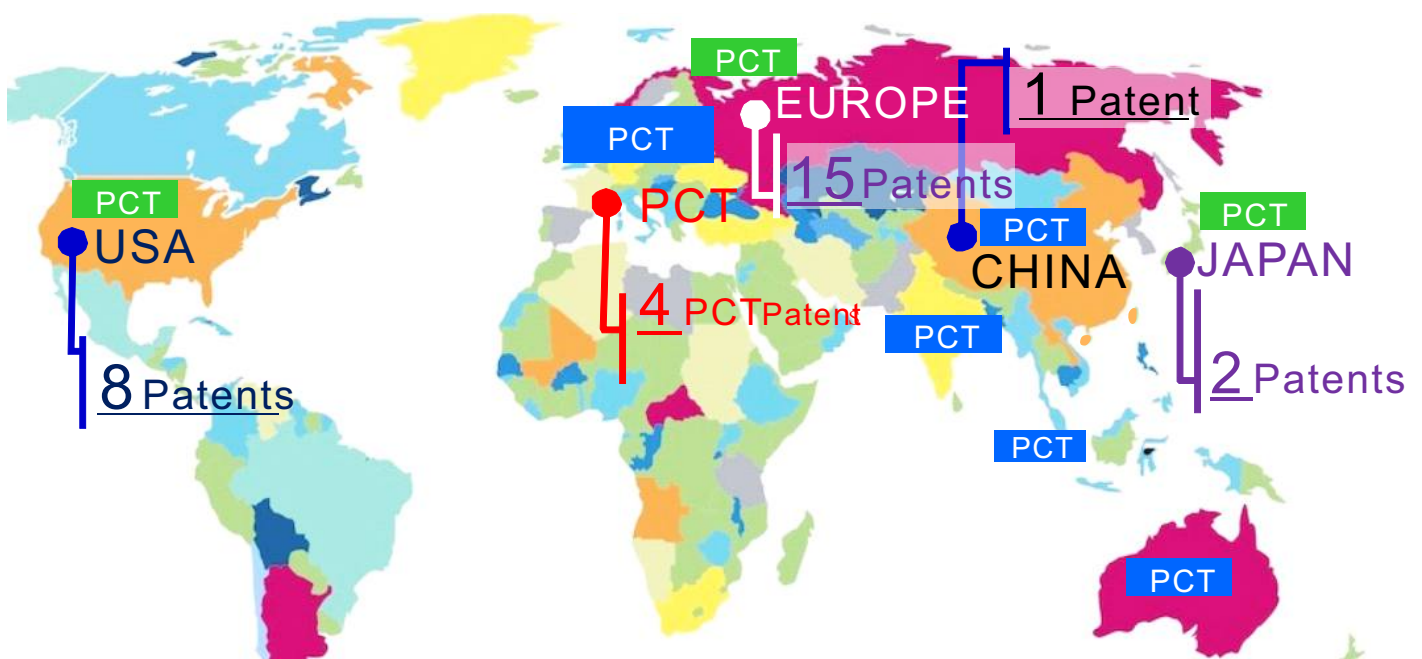
Yielded from neuroscience, physiology, cytology, psychology, physics, chemistry, engineering, materials science and computational science in combination during the last three decades, Neural Engineering is a most attractive multidisciplinary scientific field aiming to create brain related physical devices and artificial intelligence (AI) systems, focusing on the critical basis for achieving two research goals:

1. The methods, equipment and AI systems for non-contact and non-invasive detection of brain activities
2. The methods, equipment and AI systems for non-contact and non-invasive modulation of brain activities

During his past 30 years of concentrated research in Neural Engineering, Professor Xiaoping Li accumulated multiple disciplines of science in his brain. The collision of these accumulated multiple disciplines of science in his brain sparked his discovery of a special physical property of the brain as well as its relationship with external electrical field, resulted in his invention of a groundbreaking core technology - non-contact and non-invasive detection and modulation of brain activities with a special electric field, provided the critical basis for achieving both goals in Neural Engineering, leading to the creation of a totally new industrial field – the Neural Industry, which will create and produce various products to meet peoples tremendous urgent needs for non-contact and non-invasive detection and modulation of brain activities.

As the beginning of this neural industry, to improve most people's life, Professor Xiaoping Li used the groundbreaking core technology to solve people's sleep problems and invented the PowerDreaming electronic pillow.

The core technology of the product was invented by Professor Xiaoping Li and has over 30 patenting protections worldwide.



Your brain health our responsibility

Sales Link: <http://en.newrocare-global.com/product>

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Company's
official website



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