

B-CON3

ONLINE

Biofunctional Finding Conference 3

Oct, 10, 2020 (Sat) ~ Oct, 11, 2020 (Sun)

第3回生体機能学術集会

Biofunctional Finding Organization, NPO

NPO法人生体機能探査推進機構

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For B-CON3

B-CON3 開催にあたって

First of all, I pray for the souls of those who died after the spread of the new coronavirus infection. We would also like to express our deepest sympathies to those who are still fighting illness.

As a result of discussions by the Science Council of Japan Steering Committee regarding the holding of this Science Council, from the viewpoint of preventing the spread of COVID-19, it will be held from October 10th (Sat) to 11th (Sun), 2020 in a conventional collective manner. Instead, it has changed to being held online.

The presentation materials (presentation data) will be uploaded in advance in an "on-demand" format, and the materials can be viewed at any time during the exhibition period, so please view them at a convenient time.

This organization was born as a "life science study group" together with members who shared the desire to research and develop human biological functions and related fields in Kyushu. In 2018, we continued our activities while changing the name to "Biofunctional Finding Organization (BFO)", and this year 2020 is the 5th year.

Under this worldwide epidemic of infectious diseases, we basically have human biological functions that have not changed significantly since ancient times, a society that is constantly changing with the times, lifestyle changes, and behavioral changes that accompany it. I hope that it will be an opportunity for people living in the present and in the future to think together about what they can do and what they should do in order to have a better life and life. We are.

We would like to express our sincere gratitude to all those concerned for their efforts in holding this conference.

Chairperson
Biofunctional Finding Conference 3
KINOSHITA Hiroe

B-CON3

Biofunctional Finding Conference 3

第3回生体機能学術会議 概要

EVENT : Biofunctional Finding Conference 3 (B-CON3)

名 称 : 第3回生体機能学術会議

DATE : Oct, 10 (Sat), 2020~Oct, 11 (Sun), 2020

会 期 : 2020年10月10日(土)~2020年10月11日(日)

PLACE : ONLINE

場 所 : ONLINE

THEME : Biofunction and Medical Information

テーマ : 「生体機能と医療情報」

Chairperson : KINOSHITA Hiroe

議長 : 木下 博恵

PROGRAM プログラム :

Day 日程	Time 時間	Topic 内容
Oct, 10 10月10日	12:00~13:00	Keynote 1 招待講演 KIYOKAWA Takuma 清川 拓馬
	13:30~15:30	Report I 研究報告 I
Oct, 11 10月11日	09:00~11:00	Report II 研究報告 II
	11:30~12:30	Keynote 2 基調講演 NEMOTO Seiji 根本 清次
	14:00~16:00	General Meeting & Board of Directors 総会・理事会

[Research report recruitment]

[研究報告募集]

Report registration period:

September 7 (Mon) to October 2 (Fri), 2020

報告登録期間:

2020年9月7日(月)～2020年10月2日(金)

Application requirements for reports:

We are looking for a wide range of reports on biological functions. This time it will be held online, so if you are in a related field, you can apply regardless of membership. If you have any questions, please contact the secretariat.

Please register by email according to the default format.

報告募集要項:

生体機能に関する報告を幅広く募集いたします。今回はオンライン開催ですので、関連する分野の方であれば、会員・非会員問わずご応募いただけます。ご不明な点があれば、事務局までご相談ください。

既定の書式に従って、メールにて登録を行ってください。

Receipt and acceptance of reports:

If you submit a report by email, we will notify you. If you do not receive a reply, please contact the secretariat.

We will inform you later about the acceptance / rejection of the submitted report (review result).

報告の受領および採否:

メールにて報告を提出いただきましたら、その旨を通知いたします。もし返信がない場合は、事務局までお問い合わせください。

応募いただいた報告の採否(査読結果)については、追ってお知らせいたします。

Report (please see the form for details):

Reports are online slide presentations or poster presentations. We will record it in advance and make it available for viewing during the conference. Questions and answers will be sent by email.

報告について(詳細は書式をご覧ください):

報告はオンラインによるスライド発表もしくはポスター発表です。事前に録画いただき学会期間中にこちらで閲覧可能な状態にいたします。質疑はメールで行います。

[Registration]

[参加登録]

Date and time of registration and payment of participation fee:

September 7 (Mon) to October 9 (Fri), 2020

Feel free to join us online. However, if you would like to present the abstract, please contact the secretariat by email or directly by the above date and pay the participation fee (1000 yen). We will issue a receipt. Also, once you have received the fee, it cannot be refunded.

参加登録及び参加費納入日時：

2020年9月7日(月)～2020年10月9日(金)

参加についてはオンライン上で自由にご参加ください。但し、演題を発表される方は、上記日時までに事務局までメールもしくは直接ご連絡いただき、参加費（1000円）を納入ください。領収書を発行いたします。また、一度いただいた費用は返還できません。

[PAYEE]

[納付先]

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⇒**Other bank:** [store] 058 [account] 9314950)

【金融機関】ゆうちょ銀行

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Abstract (Keynote)

講演抄録

Keynote 1: Oct, 10 (Sat), 2020 12:00~13:00

招待講演: 令和2年10月10日(土) 12:00~13:00

“Modern Medical Information” KIYOKAWA Takuma

「現代の医療情報」 清川拓馬

In modern times, medical information is very important. When providing medical care, medical care is provided based on the facts supported by solid evidence. And the user also trusts the medical information and receives medical care.

These facts and information are medical information that occurs every day, and research and reports based on these facts and reports are further accumulated to form useful medical care. Most of the medical information in modern times is digitized, and a huge amount of information is accumulated at an accelerating rate. It is indispensable in modern medical care to be able to organically reconstruct and effectively utilize this information.

Nowadays, people know that COVID-19's effectiveness is changing people's behavior and being used politically.

In Japan in the future, medical information is inevitably treated as a very important element, and it is expected that it will be easier for people to handle and access. This also applies to biological function information, and understanding humans will become more enjoyable through the accumulation of information and the creation of databases.

Keynote 2: Oct, 11 (Sun), 2020 11:30~12:30

基調講演: 令和2年10月11日(日) 11:30~12:30

“With COVID-19 / After COVID-19” NEMOTO Seiji

「With コロナ / After コロナ」 根本 清次

Following the Great East Japan Earthquake, we were made aware of the impact of the new coronavirus on how vulnerable it is to sudden natural threats. This time it's more insidious, persistent, and sometimes powerfully catastrophic, rather than a momentary and violent threat, and it feels like it's at the mercy of a phenomenal spread.

Today, under these circumstances, my point of view that I should show you is, first of all, the points to keep in mind in this corona wreck. It's about wearing a mask that has reached the level of common sense. Although it does reduce the chance of infection, masks can cause slight respiratory resistance, which may be the reason why the wearing rate has stopped increasing. In addition, it has been reported that mouth breathing under a mask increases insensitive evaporation and causes dehydration in the summer. We think that there are many things we can do, such as the respiratory suppression effect of wearing a mask during exercise, blood pressure fluctuations of elderly people wearing masks, changes in blood viscosity and water intake.

By the way, unnecessarily urgent going out is restricted in Corona, and it has become necessary to live as an individual or as a family. Now that the effects of the third wave are emerging, it is quite possible that strict restrictions on going out will be required again. In this way, what kind of open measures can we have against the so-called “pressed” feeling of obstruction? Of course, there are differences in space between urban areas and county areas, and there are also differences in quality such as spatial blockage and human isolation, but in a nutshell, the problem of stress in the corona disaster has become essential.

Abstract (Report)

研究報告抄録

Report I : Oct, 10 (Sat), 2020 13:30~15:30

研究報告 I : 令和 2 年 10 月 10 日 (土) 13:30~15:30

01

“Administration of essential oil inhalation on somatosensory and cognitive function”

KINOSHITA Hiroe (TOHTO University)

The purpose of this study was to understand the mechanism of pain suppression by association fibers in each region of the brain after olfactory stimulation by essential oils reaches the olfactory center, and their possible mechanism of descending suppression.

The scents are similar to odors familiar to the Japanese, and each scent is identifiable and has a sedative effect, such as Bergamot Bergamia (Citrus bergamia, Life Tree Co., Ltd.), genuine lavender (Lavandula angustifolia, PRANAROM), Ylang-ylang (Three essential oils (E.O.) of Cananga odotata (Cananga odotata, Tree of Life Co., Ltd.) were administered to 28 healthy women in the 20-40 years of age group for vapor inhalation. Physiological measurements were made by measuring somatosensory evoked potentials (SEPs) to observe cortical activity from the brainstem, and their effect on subjective cutaneous sensory perception was assessed by the visual analog scale (VAS).

In the current results, we confirmed the trend of potential changes to aromatics on a per-subject basis based on the total SEP changes on P14-P45, and found that the application of aromatics promoted cutaneous sensations in about 70% of the subjects. We hypothesize that when changes occur in the aromatic environment, other sensations, such as somatosensory perception, may be promoted simultaneously with the increase in attention in the early stages of olfactory perception, when olfactory receptivity is increased. However, after aromatization, the overall elicitation was gradually reduced over time.

In addition, about 80% of the subjects had cases in which there was no significant change in VAS even if the overall induced amount increased in terms of subjective skin sensory cognition. Nerve activity is promoted by induction, but it is recognized as a positive and preferable state because emotions, palatability, mood associated with memory recalled by fragrance, etc. are transmitted through the prefrontal cortex, which has an integrated evaluation function. Therefore, it was suggested that the cognitive function for skin sensation causes cognition of sensory intensity in a form suppressed from the original somatosensory state, which may lead to descending suppression.

**“Detection of changes in motor function
from the start of walking to the second step in the elderly”**

KAGAWA Shota, Kiyokawa Takuma, Shimazu Yusuke (TOHTO University)

Falling in the elderly sometimes results in severe quality of life declines such as bedridden. There are various risk assessment methods to prevent this, but we have developed a simpler and more practical assessment method. In this study, we focused on fluctuations in stepping contact time, opposite foot contact time (unit: millisecond), stepping distance, opposite foot contact distance (unit: cm), and walking speed (unit: m / s) for elderly people. We developed a measuring device for the detection of the decrease in equilibrium function, which is the cause, and measured it.

The purpose of this study was explained to the elderly who use the day service, and 28 people who were able to walk 10 m continuously with prior consent were targeted. First, basic information was collected using a questionnaire, and then five measurements were taken using a gait measuring device jointly developed by Miyazaki University and Sanwa New Tech. The intraclass correlation coefficient ICC (1,1) was calculated from the measured values, and the reproducibility was examined. After that, all the measured values were corrected to the ratio with the first value, and an estimated value model was created from the average value of all the subjects. Then, each subject was compared with the estimated value model to investigate the relationship with the wobble symptom.

The single measurement value of ICC (1,1) was .423 for the stepping contact time, .880 for the stepping distance, and .813 for the walking speed. Regarding the step-on contact time, the average measured value was calculated again from the value measured three times at the beginning, and it was .765. At that time, the Cronbach α coefficient was .779. As a result, it was judged that the step-on contact time was also a reliable value if it was the average value measured three times.

Next, the changes in the step-on contact time of the four subjects who complained that they felt a strong wobble were compared with the estimated value model. As a result, with the exception of one person, the day when the outlier (the standard at which the residual value is more than twice the standard deviation) was measured and the day when the wobble was felt were consistent.

The low ICC (1,1) value of the stepping contact time is considered to be due to the sensorimotor processing process performed in the central nervous system before stepping. It is speculated that some subjects became somewhat psychologically unstable by participating in unknown measurements. As a result, the function of sensorimotor processing temporarily declined, and it seems that the step-out contact time fluctuated greatly.

In addition, the day when the outliers were measured and the day when the wobble was felt coincided with each other, depending on whether the person was cautious as a coping behavior or whether he / she actually felt wobble during the measurement and could not move his / her legs.

Report II: Oct, 11 (Sun), 2020 9:00~11:00

研究報告Ⅱ: 令和2年10月11日(日) 9:00~11:00

03

“Effects of snoring and speaking in a pseudo-hospital environment when lying down”

KIYOKAWA Takuma (TOHTO University)

MIYAMOTO Kouki (The University of Tokyo Hospital)

HAMADA Sho (MIYAKONOJO City Fire Bureau)

Sleep is for resting the brain and resting the mind and body by sleeping. Sleep is essential for physical and mental health, and getting good sleep is very important, especially for patients in the process of recovering from their illness. However, in inpatients, there are many factors that hinder sleep, such as the sound of snoring by others and the sound of running water in the toilet, and in particular, significant sounds such as snoring and speaking voices are more likely to be felt unpleasant. Based on these facts, in this study, we listen to snoring and human speech to the subjects, compare their brain waves, and consider which sound has a greater effect on sleep for inpatients.

The subjects were 14 healthy Japanese men and women (22-29 years old). The noise in the shield room was kept at about 30 dB, and a sound source was installed 1.5 m from the subject's bedside to reproduce the snoring voice. In order to reduce the effects of life factors, the subjects were asked to live the same life normally, and the brain waves were measured once in an environment of (1) snoring, (2) speaking, in a shield room for about 20 minutes with the eyes closed. And saw the change in consciousness level.

During the first regeneration of snoring, arousal tendencies were observed in 12 patients. Sleeping EEG was observed in 11 cases during the second regeneration of snoring. At the time of the first reproduction of the voice, arousal tendency was observed in 8 cases. At the time of the second reproduction of the spoken voice, 11 cases shifted to the suppression tendency. It is probable that the sound environment similar to the sound environment during normal sleep promoted the subject's falling asleep. In addition, since most of the subjects showed a wakefulness tendency when snoring and speaking voices were reproduced, it is predicted that sound stimulation can often be a factor that inhibits falling asleep for inpatients whose normal living environment changes. After the first snoring sound and speaking voice stimulation, after awakening on the brain wave, the average value of snoring sound is 1 minute 34 seconds and the average value of speaking voice is 2 minutes 28 seconds, respectively. Therefore, it can be considered that the effect on falling asleep was greater in the environment where the voice was heard after the first sound stimulation. However, when comparing the second time, the snoring sound was 47 seconds and the speaking voice was 15 seconds. It is considered that this is due to the type of sound of sleep disorders, changes in consciousness level with the passage of time, and "familiarity" with the sound. Sudden sounds are more likely to be disturbed than sounds that are constantly emitted, and meaningful sounds such as spoken voices are more susceptible to interference than meaningless sounds, while the elements of familiarity are higher than those that interfere with listening and work. It matches what is said.

About BFO

NPO 法人生体機能探査推進機構について

NAME: **Biofunctional Finding Organization, NPO**

名称: **NPO法人生体機能探査推進機構**

Establishment(Certification): March, 20, 2015 (July, 22, 2019)

設立(法人化): 平成 27 年 3 月 20 日 (令和元年 7 月 22 日)

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Vice President (Manager) 副理事長(事務局長)	KIYOKAWA Takuma 清川 拓馬
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Objective:

This association conducts research and development of human biofunctional and its related fields. Promote the quest for the information and knowledge through dissemination and enlightenment. And it aims at contributing to the improvement of the quality of life of people and the public welfare. In addition, we aim to contribute internationally.

目的:

この法人は、ヒトの生体機能及びその関連分野の研究・開発を行い、その情報や知識を普及・啓発等を通して、その探査の推進を図り、人々の生活の質の向上及び公共の福祉に寄与することを目的とし、国際的にも貢献することを目指す。

<B-CON2 OFFICE> 第2回生体機能学会議実行委員会

Chairperson 学術会議長: KINOSHITA Hiroe 木下博恵

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