# Past & Present Editors-in-Chief: From JJP to JPS

Jpn J Med Sci PIII Bio

1950

The first JJP Editor in Chief

Kuno
(50–70)

Yoshimura
(71–72)

Katsuki
(73–74)

Hashida
(1927–49)

Iwama
(75–76)

1970

1975

Watanabe
(77–78)

Mashima
(79–80)

Irisawa
(81–82)

Nakayama
(83–84)

1980

1985

Hoshi
(85–86)

Honda
(87–88)

Hiroshige
(89–90)

1990

1995

Kaneko
(91–96)

Suga
(97–00)

Noma
(01–05)

2000

I.F.=1.351

2005
2006

Okada
(2006–)

The first JPS Editor in Chief

Present Associate Editors:
Homma I, Ina T, Kasai M, Kawahara K, Kawai Y, Konishi M, Noma A, Nose H, Ohhashi T, Ohmori H, Sakuma Y, Sato A, Takahashi K.

## JPS Editor in Chief
## JPS 編集委員長

岡田　泰伸（生理学研究所教授）

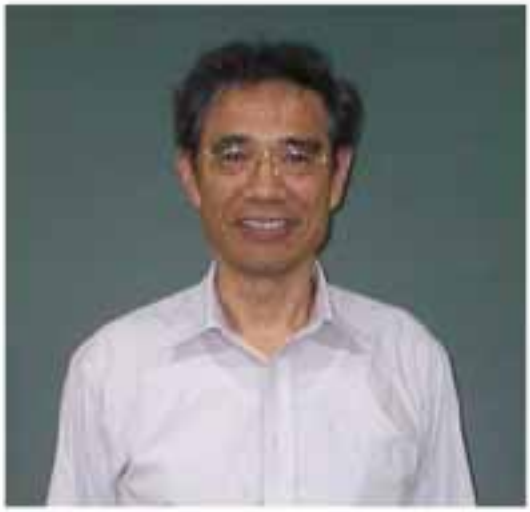
### 一新された私達のジャーナルJPSによって新しい統合的な生理学を

生理学は常に変化・進歩しているサイエンスであるが、その究極の目標は永久・不滅である。「生命とは何か？」その理解を求めて生理学者は、各種生命機能を担うエレメントとその相互関係や、それらの細胞・組織・器官・個体機能への統合メカニズムについて研究を続けている。JJPからJPSへと誌名変更した私達のジャーナルは、世界中の研究室からの最新かつ重要な研究成果を迅速に出版し、それによって新しい統合的な生理学の構築に寄与したいと念じている。

### Towards a new integrated Physiology via a renewed journal, *JPS*

Although Physiology is an ever-changing science, its ultimate goal is eternal. To understand what life is, physiologists study the interactions of functional elements and their integration into cells, tissues, organs and/or the whole organism. Our journal, the name of which has been changed from *The Japanese Journal of Physiology* (*JJP*) to *The Journal of Physiological Sciences* (*JPS*), wishes to be instrumental in promptly publishing the outcomes of novel, important physiological studies from laboratories around the world and to thereby contribute to a new integrated Physiology.

*JPS* Editor-in-Chief
Yasunobu Okada



## JJP Editor in Chief
## JJP 編集委員長

野間　昭典（京都大学医学部教授）

### JJPに込められた先達の情熱と誇りを継承しよう！

The Japanese Journal of Physiologyは第５５巻（２００５年）をもって、The Journal of Physiological Sciencesに引き継がれました。ＪＪＰを創刊した時代（昭和２５年）の日本の生理学者は研究資源も指導者も著しく不足していた苦難の時代にあって、この国に生理学研究の文化を興す気概と情熱を持って励み、その研究活動の一環として、わが国の研究成果を世界に問うべく欧文誌ＪＪＰを発刊しました。以来、ＪＪＰは半世紀を越える歴史を誇っています。ＪＪＰからＪＰＳへのタイトル変更は、世界人類の文化にいっそうの貢献を目指し、名実ともにＪＪＰを国際誌としてゆるぎないものにするためです。先達からの伝統を引き継ぐＪＰＳを私たちが研究活動の原点としてきちんと位置づければ、ＪＰＳは更に発展するに違いありません。

### We respect the academic legacies we have inherited from our pioneers

The *Japanese Journal of Physiology* has been publishing physiological accomplishments that have occurred not only in Japan, but also in many other countries, for more than 55 years. It has finished this historical role with volume 55 (2005) and will be succeeded by the *Journal of Physiological Sciences*. When the first issue of JJP was published in 1950, Japanese physiologists had neither enough research funds nor sufficient human resources. However, they enthusiastically talked of the future of physiology and started JJP to establish their rightful place among the world's academia. In the past year, the Physiological Society of Japan decided to change the journal's title with the aim of making greater global contributions to physiology. The success of JPS will solely depend on our research activities as we constantly strive to place new ideas and new findings for our worldwide readers in this important publication.

JJP Editor-in-Chief
Akinori Noma

# Past Covers of JJP



表紙

1） 肌色B5、1-20巻まで

2） 緑色B5、21-44巻

3） 赤白A4、45巻以降

## The Memory of Prof. Y. Kuno

## 久野寧先生追悼文

Jpn J Physiol Vol. 28, No. 2, 1978

Yasu Kuno
(1892–1977)
Professor Emeritus of Nagoya University
Member of the Japan Academy

Dr. Yasu Kuno, professor emeritus of Nagoya University, died on December 30, 1977, at the age of 85, after being confined to bed for several months. He was born on March 30, 1892 in Aichi prefecture. After graduating from Aichi Medical School, which was the forerunner of Nagoya University School of Medicine, he studied physiology at the University of Tokyo and then at Kyoto University until 1911, when he was appointed professor of physiology at Nanman (South Manchuria) Medical School. In February 1913, he went to Europe to study physiology at the University of Leipzig and to study physiology of circulation in the Department of Physiology, University College London, with Prof. Ernest Starling.

After returning to Japan, he received the degree of Doctor of Medical Science from the Ministry of Education in 1916. In 1921, he started to study physiology of sweating which became his life's work. He devised a new method of measuring the rate of sweating continuously from the human skin, and found that sweating can be classified into two types, i. e., thermal and mental sweatings. The former is brought about by sensory stimulation resulting from heat accumulation in the body, while the latter is excited by mental stress. Together with Dr. Koohiro Ogata, now a professor emeritus of Kumamoto University, he found the presence of entirely inactive sweat glands in human skin. He also studied the development of the secretory activity of sweat gland, together with their nervous innervation and humoral control.

After leaving Manchuria in 1935, he returned to Kyoto University and was then appointed professor of physiology at his Alma Mater, now Nagoya University School of Medicine, and studied the chemistry of sweat with Dr. Shinji Itoh, now a professor emeritus of Hokkaido University, and found that heat training of sweat glands results in a decrease of salt concentration of sweat. Starting with these findings he studied the homeostatic mechanism of water and salts in body fluid in heat training and the mechanism of heat acclimatization, especially in tropical countries.

His works covered all areas of the physiology of sweating and related problems, and his pioneering works were compiled systematically in his well-known books: The Physiology of Human Perspiration (J. & A. Churchill, Ltd., London, 1934) and Human Perspiration (C. C. Thomas, Publisher, Springfield, 1956). The physiology of human sweating was completely described, clearly and systematically for the first time.

After retiring from Nagoya University in 1955, he continued his studies on human sweating with me at Kyoto Prefectural University of Medicine, and with Dr. Shunichi Usami of Mie University. The final presentation of his life-long work was made in a special lecture entitled "The Mechanism of Human Sweat Secretion" at the XXIII International Congress of Physiology in Tokyo in 1965. In this lecture he presented a hypothesis on the evolutional development of sweat apparatus by demonstrating how the nervous control of human sweat apparatus has developed into the cholinergic innervation from the adrenergic innervation of the primitive sweat glands of animals.

In addition to these research activities, he proposed, as a member of the Science Council of Japan, that the Japanese Government should promote cooperation among research workers in various fields, and thus the Government organized a system of integrated scientific research groups in the Ministry of Education. As a council member of IUPS, he organized the Japanese Union of Physiological Sciences. The Japanese Journal of Physiology was founded by him in 1951, and was edited and published by him until 1970, when its publication was handed over to the Physiological Society of Japan and the University of Tokyo Press. In 1949, he organized the Vitamin Society of Japan where the Journal of Vitaminology originated.

The brilliant work of Dr. Kuno was recognized by the Japanese Government in 1941 when he was awarded the Imperial Prize by the Japan Academy, and then the highest decoration in the field of cultural achievements, the Order of Cultural Merits, by the Government in 1963. He was appointed a member of Japan Academy in 1949 and also received honorary membership in the Physiological Society of Great Britain, the American Physiological Society and the Physiological Society of the Federal Republic of Germany.

It was Dr. Kuno's hobby to provide hospitality to his friends and pupils, with the help of his wife, Fumi, who spoke English fluently. He was a broad-minded, warm-hearted man who had many intimate friends throughout the world. Though he lost his wife in 1955, he spent happy days in his last years, served by his family, especially his good children, three sons all university professors, and three daughters.

The physiology of human perspiration whose scientific basis was established by Dr. Kuno stimulated the development of climatic physiology and physiology of thermal regulation in Japan in which his pupils, Dr. Kokichi Ohara, professor of physiology, Nagoya City University, and Dr. Teruo Nakayama, professor of physiology, Osaka University play leading roles. With the death of Dr. Kuno, we have lost a good teacher and an outstanding physiologist in the world; all his pupils and friends mourn his death deeply.

Hiroki Yoshimura

# The Cover of the JJP (Vol.1(1)) and Its Contents

# JJP 第１巻第１号　　表紙と目次


THE

JAPANESE JOURNAL

OF

PHYSIOLOGY

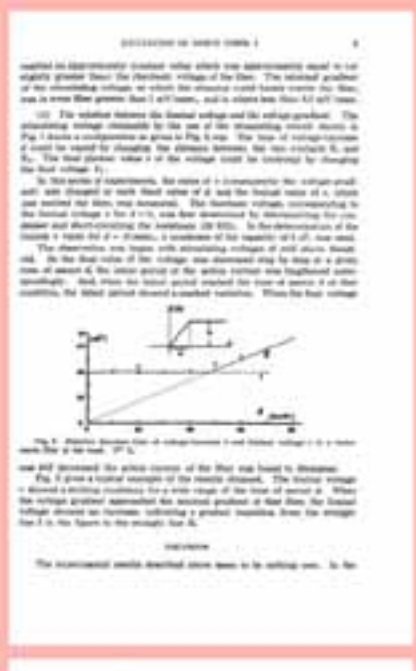

THE JAPANESE JOURNAL
OF PHYSIOLOGY

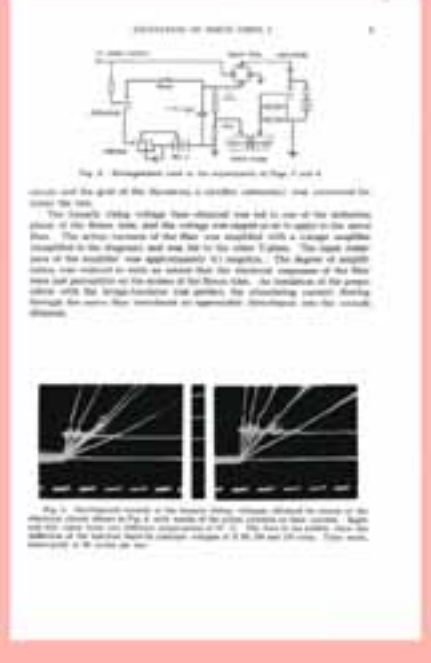
VOLUME 1

CONTENTS

# TASAKI I. (Jpn J Physiol. Vol 1 : p.1-6, 1950)


ELECTRICAL EXCITATION OF THE NERVE FIBER
PART I. EXCITATION BY LINEARLY
INCREASING CURRENTS





# METHODS & EQUIPMENTS in 1970's

## [1] NEURAL REGULATION OF ATRIOVENTRICULAR CONDUCTION

Japan. J. Physiol., 21,pp. 15-25,1971

Hiroshi Ishawa,* W. M. Caldwell and M. F. Wilson

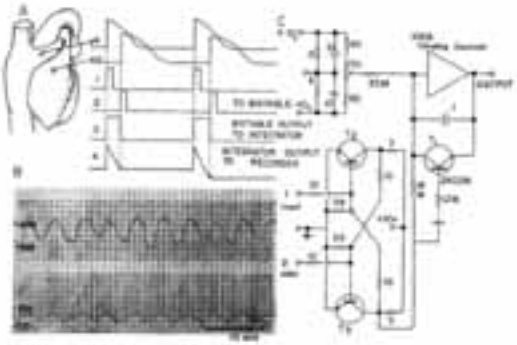


Fig. 1. Method for registering the A-V interval. A: Inset picture indicates the localization of the electrodes on the right atrium and the right ventricle. A and V are the original tracings. The pulses immediately below correspond to the onset of the action potentials A and V. These pulses control the duration of bistable multivibrator output which is equal to the A–V interval. Finally, the negative moving ramp is the integrated output of the recorder. B: Relation between R–R interval (upper tracing) and the A-V interval (lower tracing). Ordinate numerals are msec. C: Circuit of A–V interval meter: $T_1$, $T_2$ and $T_3$ are 2N3391.

## [2] A HYDROGEN CATHETER ELECTRODE FOR THE DETERMINATION OF BLOOD FLOW THROUGH ORGAN TISSUE AND CORONARY BLOOD FLOW UNDER CONTINUOUS HYPOXIA

Japan. J. Physiol., 21,pp. 209-226,1971

Tomiyasu Kotsuka and Yoshiaki Matutani

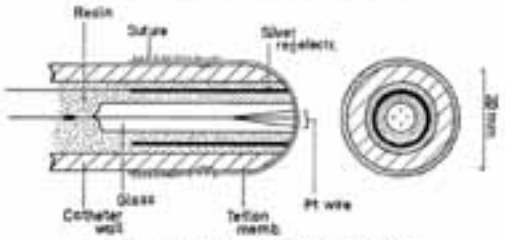



Fig. 1. Schematic illustration of the $H_2$ catheter electrode.

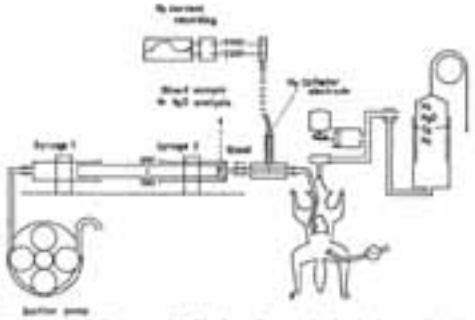
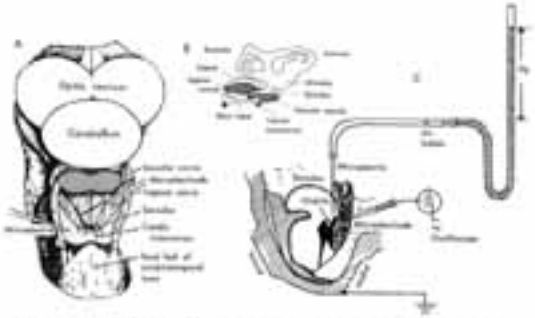


Fig. 2. Schematic illustration of the blood sampling assembly for simultaneous determinations by use of the N2O and $H_2$ methods.

## [3] EFFECTS OF $Na^+$, $K^+$, AND OUABAIN ON MICROPHONIC POTENTIALS OF THE GOLDFISH INNER EAR

Jap. J. Physiol., 21, 563-578,1971

S. Matsuura, K. Ikeda and T. Furukawa



## [4] THE ELECTRIC POTENTIAL CHANGE OF INTERNAL MEMBRANE DURING PROPAGATION OF CONTRACTION IN SKINNED FIBRE OF TOAD SKELETAL MUSCLE

Jap. J. Physiol., 25, 51-63,1975

Reiji Natori

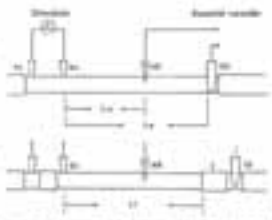


Fig. 1. Schematic illustration of recording of potential change of skinned fibre. St: needle stimulating electrode (Ag-AgCl). ME: microelectrode. CE: Ag-AgCl electrode. S: contracted portion. Lst: distance between St and CE. Lme: distance between St and ME. Ls: distance between St and S.

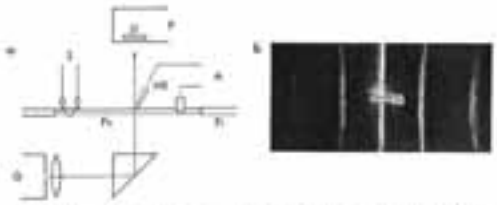


Fig. 2. Diagram of recording of potential change and change in light quantity due to diffraction of gas-laser beam. a, Fs: skinned portion of muscle fibre. Fi: intact portion of muscle fibre. S: stimulator. ME: microelectrode. A: potential recorder. G: gas laser. P: photomultiplier tube. D: slit in front of photomultiplier tube. b, Diffraction spectrum and slit in front of photomultiplier tube.

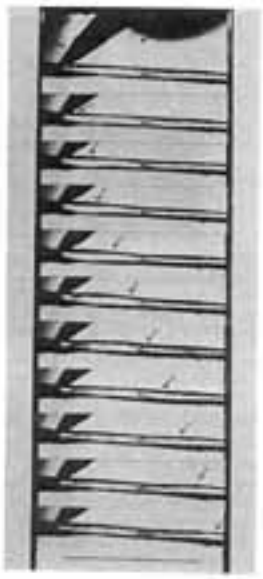


Fig. 3. Cine photographs of propagating contraction of skinned fibre. Cine film was taken at 32 frames per second. Scale bar: 1 mm.

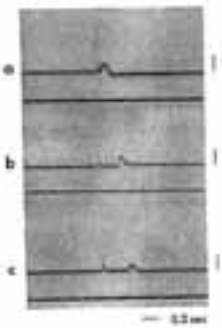
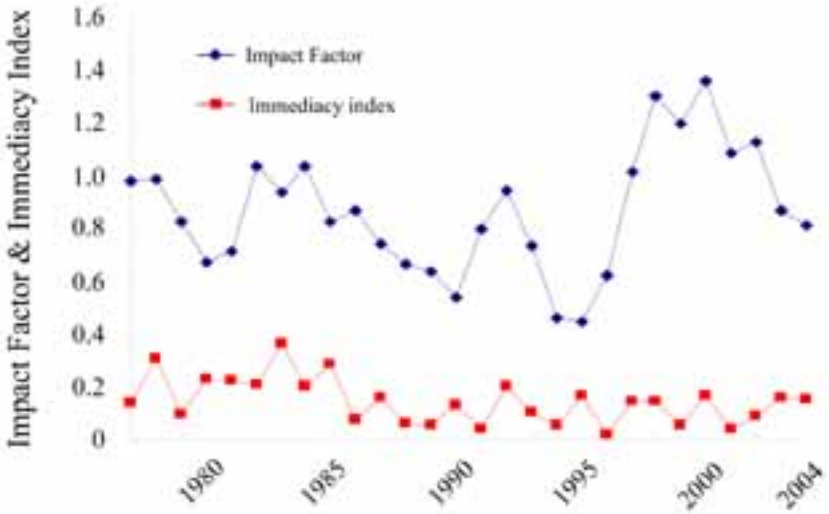



Fig. 4. Records of potential change of propagating contraction of skinned fibre. Skinned fibres of m. adductor magnus of toad, 18°C. a, distance between St and ME (Lme): 0.3 mm. The resistance of ME (Re): 50 MΩ. b, Lme: 0.8 mm. Re: 50 MΩ. c, Lme: 1.3 mm. Re: 40 MΩ. The first spike in each electrogram is an artifact due to stimulation.

# Journal Statistics

A.

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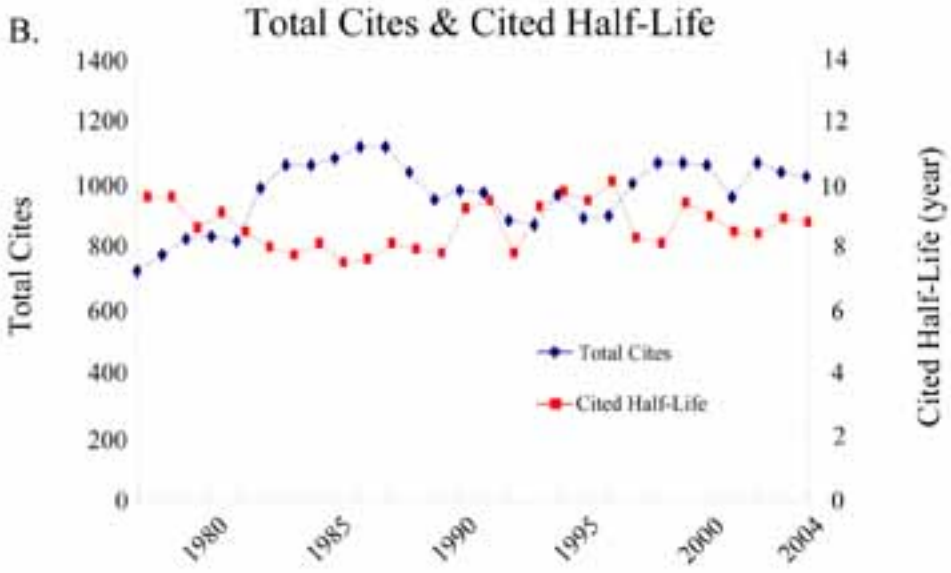
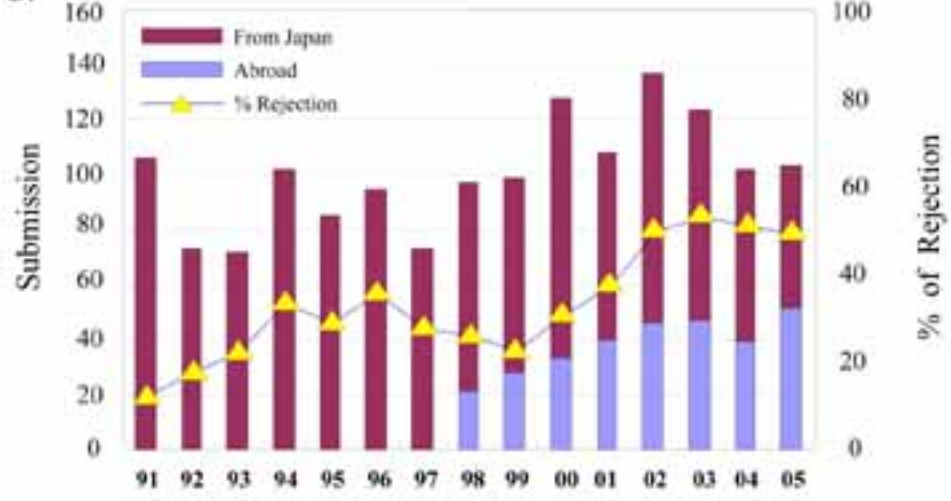



A number of Submission / a rate of Rejection

C.



# JJP Hiroshi Irisawa Awarders

# 日本生理学会入澤記念 JJP優秀論文賞

**<1993>**

Katsumasa KAWAHARA and Kenzo MATSUZAKI（東京大学医学部第二生理）

A Stretch-Activated Cation Channel in the Apical Membrane of A6 Cells. Vol.43 (6) : 817-832, 1993

**<1994>**

Tsukasa TAMEYASU（聖マリアンナ医科大学医学部生理）

Oscillatory Contraction of Single Sarcomere in Single Myofibril of Glycerinated, Striated Adductor Musucle of Scallop. Vol 44 (3) : 295-318, 1994

**<1995>**

Kyo-Ichi TAKAHASHI, Shun-ichiro MIYOSHI, and Akimichi KANEKO（慶應義塾大学医学部生理）

GABA-Induced Chloride Current in Catfish Horizontal Cells Mediated by Non-GABAA Receptor Channels. Vol.45 (3) : 437-456, 1995

Natsu KOYAMA, Yasuo NISHIKAWA, Arneil T CHUA, Masatsugu IWAMOTO, and Toshikatsu YOKOTA（滋賀医科大学医学部生理）

Differential Inhibitory Mechanisms in VPL versus Intralaminar Nociceptive Neurons of the Cat: I. Effects of Periaqueductal Gray Stimulation. Vol.45 (6) : 1005-1027, 1995

**<1996>**

Tetsuro SAKAI, Akihiko HIROTA, and Kohtaro KAMINO （東京医科歯科大学医学部第二生理）

Video-Imaging Assessment of Initial Beating Patterns of the Early Embryonic Chick Heart . Vol.46 (6) : 465-472, 1996

**<1997>**

Riichi KAJIWARA, Olav SAND, Yoshiaki KIDOKORO, Michael E. BARISH, and Toshio IIJIMA （電子技術総合研究所超分子部,東北大情報科学研究科他）

Functional Organization of Chromaffin Cells and Cholinergic Synaptic Transmission in Rat Adrenal Medulla. Vol.47 (5) : 449-464, 1997

**<1998>**

Keisetsu SHIMA and Jun TANJI（東北大学医学部生体システム生理）

Involvement of NMDA and Non-NMDA Receptors in the Neuronal Responses of the Primary Motor Cortex to Input from the Supplementary Motor Area and Somatosensory Cortex: Studies of Task-Performing Monkeys. Vol.48 (4) : 275-290, 1998

**<1999>**

Takashi SHIGEMOTO（神戸大学医学部第二生理学）

Fibronectin Induces Pseudopod Formation and Cell Migration by Mobilizing Internal $Ca^{2+}$ in Blastoderm Cells from Medaka Embryos. Vol. 49 (6): 527-539, 1999

Ju MIZUNO, Takashi MIKANE, Junichi ARAKI, Mineko HATASHIMA, Toshiyuki MORITAN, Tetsuya ISHIKAWA, Kimiaki KOMUKAI, Satoshi KURIHARA, Masahisa HIRAKAWA, Hiroyuki SUGA.（岡山大学医学部生理学第二講座・麻酔・蘇生学講座他）

Hybrid Logistic Characterization of Isometric Twitch Force Curve of Isolated Ferret Right Ventricular Papillary Muscle. Vol. 49 (2): 145-158, 1999

**<2000>**

Katsuya DEZAKI, Takehiko TSUMURA, Emi MAENO, and Yasunobu OKADA（生理学研究所機能協関）

Receptor-Mediated Facilitation of Cell Volume Regulation by Swelling-Induced ATP Release in Human Epithelial Cells. Vol. 50 (2): 235-241, 2000

Sae UCHIDA, Fusako KAGITANI, Atsuko SUZUKI, and Yoshihiro AIKAWA （東京都老人総合研究所）

Effect of Acupuncture-Like Stimulation on Cortical Cerebral Blood Flow in Anesthetized Rats. Vol. 50 (5): 495-507, 2000.

**<2001>**

Shintaro YAMAMOTO, Tsuguhisa EHARA, and Takao SHIOYA（佐賀医科大学生理）

Changes in Cell Volume Induced by Activation of the Cyclic AMP-Dependent Chloride Channel in Guinea-Pig Cardiac Myocytes. Vol. 51 (1): 31-41, 2001

Masayuki TOKUMASU, Yoshimi NAKAZONO, Hideto IDE, Kimio, AKAGAWA, and Hiroshi ONIMARU（青山理工学部電気電子工学科他）

Optical Recording of Spontaneous Respiratory Neuron Activity in the Rat Brain Stem. Vol. 51 (5): 613-619, 2001

**<2002>**

Toru IDE, Yuko TAKEUCHI, Takaaki AOKI, and Toshio YANAGIDA（大阪大学大学院生命機能研究科）

Simultaneous Optical and Electrical Recording of a Single Ion-Channel. Vol. 52 (5) : 429-434, 2002

**<2003>**

Satoshi MATSUOKA, Nobuaki SARAI, Sinobu KURATOMI, Kyoichi ONO, and Akinori NOMA（京都大学医学研究科生体制御医学講座細胞機能制御学他）

Role of Individual Ionic Current Systems in Ventricular Cells Hypothesized by a Model Study. Vol. 53 (2): 105-123, 2003.

**<2004>**

Michiko IWASE, Masahiko IZUMIZAKI, Mitsuko KANAMARU, and Ikuo HOMMA （昭和大学医学部第二生理）

Effects of Hyperthermia on Ventilation and Metabolism during Hypoxia in Conscious Mice. Vol. 54 (1): 53-59, 2004

**<2005>**

Takeo TANAAMI, Hideyuki ISHIDA, Hidetaka SEGUCHI, Yuki HIROTA, Toshie KADONO, Chokoh GENKA, Hiroe NAKAZAWA, and WH BARRY（東海大学医学部生理科学）

Difference in Propagation of $Ca^{2+}$ Release in Atrial and Ventricular Myocytes. Vol.55 (2): 81-91, 2005