

# 神経科学講座

## ○主な研究内容

- 1 非侵襲的脳機能検査法を用いたヒト高次脳機能の解明
- 2 運動制御に関わる中枢神経機構
- 3 学習の神経機構
- 4 海馬シナプスの伝達機構の解明
- 5 脳血管細動脈による脳循環動態の調節の解明

## ○Pub Med 掲載論文 (2018 年)

1. Working memory deficit in drug-resistant epilepsy with an amygdala lesion.

Usui K, Terada K, Usui N, Matsuda K, Kondo A, Tottori T, Shinozaki J, Nagamine T, Inoue Y. *Epilepsy Behav Case Rep.* 2018 Jul 17;10:86-91. doi: 10.1016/j.ebcr.2018.07.003. eCollection 2018.

PMID: 30094180 Free PMC Article

2. Effects of propofol on IPSCs in CA1 and dentate gyrus cells of rat hippocampus: Propofol effects on hippocampal cells' IPSCs.

Ishiguro M, Kobayashi S, Matsuyama K, Nagamine T.

*Neurosci Res.* 2018 May 17. pii: S0168-0102(17)30716-2. doi: 10.1016/j.neures.2018.05.003. [Epub ahead of print]

PMID: 29778809

3. Establishing a New Screening System for Mild Cognitive Impairment and Alzheimer's Disease with Mental Rotation Tasks that Evaluate Visuospatial Function.

Suzuki A, Shinozaki J, Yazawa S, Ueki Y, Matsukawa N, Shimohama S, Nagamine T.

*J Alzheimers Dis.* 2018;61(4):1653-1665. doi: 10.3233/JAD-170801.

PMID: 29376869

4. Analyzing Neural Activity and Connectivity Using Intracranial EEG Data with SPM Software.

Sato W, Kochiyama T, Uono S, Usui N, Kondo A, Matsuda K, Usui K, Toichi M, Inoue Y.

*J Vis Exp.* 2018 Oct 30;(140). doi: 10.3791/58187.

PMID: 30451234

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## ○Pub Med 掲載論文 (2017 年)

1. Distribution and Network of Basal Temporal Language Areas: A Study of the Combination of Electric Cortical Stimulation and Diffusion Tensor Imaging.

Enatsu R, Kanno A, Ookawa S, Ochi S, Ishiai S, Nagamine T, Mikuni N.  
World Neurosurg. 2017 Oct;106:1-8. doi: 10.1016/j.wneu.2017.06.116. Epub 2017 Jun 21.  
PMID: 28647657

2. Establishing a New Screening System for Mild Cognitive Impairment and Alzheimer' s Disease with Mental Rotation Tasks that Evaluate Visuospatial Function

Suzuki A, Shinozaki J, Yazawa S, Ueki Y, Matsukawa N, Shimohama S, Nagamine T.  
Journal of Alzheimer' s Disease, vol. 61, no. 4, pp. 1653-1665, 2018.  
PMID: 29376869

3. Cardiac arrest caused by sibutramine obtained over the Internet: a case of a young woman without pre-existing cardiovascular disease successfully resuscitated using extracorporeal membrane oxygenation.

Bunya N, Sawamoto K, Uemura S, Kyan R, Inoue H, Nishida J, Kouzu H, Kokubu N, Miura T, Narimatsu E.  
Acute Med Surg. 2017 Mar 29;4(3):334-337. doi: 10.1002/ams2.275. eCollection 2017 Jul.  
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Bunya N, Sawamoto K, Uemura S, Toyohara T, Mori Y, Kyan R, Miyata K, Irifune H, Harada K, Narimatsu E.  
Int J Emerg Med. 2017 Dec;10(1):4. doi: 10.1186/s12245-017-0131-1. Epub 2017 Jan 26.  
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5. Adaptive Cross-Resistance to Aminoglycoside Antibiotics in Pseudomonas aeruginosa Induced by Topical Dosage of Neomycin.

Uemura S, Yokota SI, Shiraishi T, Kitagawa M, Hirayama S, Kyan R, Mizuno H, Sawamoto K, Inoue H, Miyamoto A, Narimatsu E.

Chemotherapy. 2017;62(2):121-127. doi: 10.1159/000449368. Epub 2016 Oct 29.  
PMID: 27794569

○その他論文（2017年）

「高齢者の抗てんかん薬選択と管理」

高橋幸利編 『プライマリ・ケアのための新規抗てんかん薬マスターブック』改訂第2版 pp. 57-60.

診断と治療社. 東京. 2017年11月

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## ○Pub Med 掲載論文 (2016 年)

1. Etiology of Sudden Cardiac Arrest in Patients with Epilepsy: Experience of Tertiary Referral Hospital in Sapporo City, Japan.  
Miyata K1, Ochi S, Enatsu R, Wanibuchi M, Mikuni N, Inoue H, Uemura S, Tanno K, Narimatsu E, Maekawa K, Usui K, Mizobuchi M.  
Neurol Med Chir (Tokyo). 2016 May 15;56(5):249-56. doi: 10.2176/nmc.oa.2015-0285. Epub 2016 Mar 4. PMID: 26948699 Free PMC Article
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Sci Rep. 2016 Aug 11;6:31388. doi: 10.1038/srep31388.  
PMID: 27510407 Free PMC Article
3. Load effect on background rhythms during motor execution: A magnetoencephalographic study.  
Toyoshima T1, Yazawa S2, Murahara T2, Ishiguro M2, Shinozaki J2, Ichihara-Takeda S3, Shiraishi H4, Matsushashi M5, Shimohama S6, Nagamine T7.  
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4. The Effect of Parathion on Red Blood Cell Acetylcholinesterase in the Wistar Rat.  
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PMID: 27418928 Free PMC Article
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PMID: 27258847
6. Neuromodulatory Role of Revascularization Surgery in Moyamoya Disease.  
Noshiro S, Mikami T, Komatsu K, Kanno A, Enatsu R, Yazawa S, Nagamine T, Matsushashi M, Mikuni N.  
World Neurosurg. 2016 Jul;91:473-82. doi: 10.1016/j.wneu.2016.04.087. Epub 2016 May 2.  
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7 . Rapid gamma oscillations in the inferior occipital gyrus in response to eyes. Sato W, Kochiyama T, Uono S, Matsuda K, Usui K, Usui N, Inoue Y, Toichi M. *Sci Rep*. 2016 Nov 2; 6:36321.doi:10.1038/srep36321.

Gamma Oscillations in the Temporal Pole in Response to Eyes. Sato W, Kochiyama T, Uono S, Matsuda K, Usui K, Usui N, Inoue Y, Toichi M. *PLoS One*. 2016 Aug 29;11(8):e0162039.doi:10.1371/journal.pone.0162039

8 Gamma Oscillations in the Temporal Pole in Response to Eyes. Sato W, Kochiyama T, Uono S, Matsuda K, Usui K, Usui N, Inoue Y, Toichi M. *PLoS One*. 2016 Aug 29;11(8):e0162039.doi:10.1371/journal.pone.0162039 .

9 . Cognitive dysfunction and regional cerebral blood flow changes in Japanese females after human papillomavirus vaccination. Matsudaira T, Takahashi Y, Matsuda K, Ikeda H, Usui K, Obi T, Inoue Y. *Neurology and Clinical Neuroscience* 4 (2016)220-227

9 . Neuromodulatory Role of Revascularization Surgery in Moyamoya Disease.

Noshiro S, Mikami T, Komatsu K, Kanno A, Enatsu R, Yazawa S, Nagamine T, Matsuhashi M, Mikuni N.

*World Neurosurg*. 2016 Jul;91:473-82. doi: 10.1016/j.wneu.2016.04.087. Epub 2016 May 2.

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10 . Adaptive Cross-Resistance to Aminoglycoside Antibiotics in *Pseudomonas Aeruginosa* Induced by Topical Dosage of Neomycin.

Uemura S, Yokota SI, Shiraishi T, Kitagawa M, Hirayama S, Kyan R, Mizuno H, Sawamoto K, Inoue H, Miyamoto A, Narimatsu E. *Chemotherapy*. 2016 Oct 29;62(2):121-127.[Epub ahead of print]

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## ○Pub Med 掲載論文 (2015 年)

1. Ichihara-Takeda S, Yazawa S, Murahara T, Toyoshima T, Shinozaki J, Ishiguro M, Shiraishi H, Ikeda N, Matsuyama K, Funahashi S, Nagamine T.  
Modulation of alpha activity in the parieto-occipital area by distractors during a visuospatial working memory task: a magnetoencephalographic study.  
J Cogn Neurosci. 2015 Mar;27(3):453-63. doi: 10.1162/jocn\_a\_00718. Epub 2014 Sep 22.
2. Ito E, Yamagishi M, Hatakeyama D, Watanabe T, Fujito Y, Dyakonova V, Lukowiak K.  
Memory block: a consequence of conflict resolution.  
J Exp Biol. 2015 Jun;218(Pt 11):1699-704. doi: 10.1242/jeb.120329. Epub 2015 Apr 16.
3. Ito E, Yamagishi M, Takigami S, Sakakibara M, Fujito Y, Lukowiak K.  
The Yerkes-Dodson law and appropriate stimuli for conditioned taste aversion in *Lymnaea*.  
J Exp Biol. 2015 Feb 1;218(Pt 3):336-9. doi: 10.1242/jeb.113266. Epub 2014 Dec 18.
4. Suriadi MM, Usui K, Tottori T, Terada K, Fujitani S, Umeoka S, Usui N, Baba K, Matsuda K, Inoue Y.  
Preservation of absolute pitch after right amygdalohippocampectomy for a pianist with TLE.  
Epilepsy Behav. 2015 Jan;42:14-7.
5. Araki K, Terada K, Usui K, Usui N, Araki Y, Baba K, Matsuda K, Tottori T, Inoue Y.  
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Clin Neurophysiol. 2015 Apr;126(4):682-8.
6. Usui N, Terada K, Baba K, Matsuda K, Usui K, Tottori T, Mihara T, Inoue Y.  
Significance of Very-High-Frequency Oscillations (Over 1,000Hz) in Epilepsy.  
Ann Neurol. 2015 Aug;78(2):295-302.

## ○その他論文 (2015 年)

### 【原著】

1. 佐々木健史, 長峯 隆, 小塚直樹, 松山清治  
傾斜外乱時におけるラット動的姿勢調節の特徴  
理学療法科学(1341-1667) 30 巻 1 号 Page21-27(2015. 02)
2. 荒木 邦彦, 松平 敬史, 池田 仁, 臼井 桂子, 寺田 清人, 小尾 智一, 井上 有史  
成人期のダウン症候群に合併する遅発性てんかんの臨床的特徴  
てんかん研究 32(3), 511-518, 2015

## 【Book chapter】

1. 長峯 隆  
IV脳機能検査法の理解 8. 脳磁図 (MEG) の基本  
脳神経外科診療プラクティス6 脳神経外科医が知っておくべきニューロサイエンスの知識  
(三國信啓, 深谷 親, 編)  
東京: 文光堂; 2015. p167-169
  
2. 長峯 隆  
IV脳機能検査法の理解 8. 脳磁図 (MEG) でわかる脳機能  
脳神経外科診療プラクティス6 脳神経外科医が知っておくべきニューロサイエンスの知識  
(三國信啓, 深谷 親, 編) 東京: 文光堂; 2015. p170-173
  
3. 臼井桂子  
複雑部分発作重積状態 (CPSE), 認知障害焦点発作重積状態  
臨床てんかん学(兼本, 丸, 小国, 池田, 川合 編) 東京: 医学書院; 2015. p171-173
  
4. Nagamine T, and Matsuhashi M.  
Basic Functions and Clinical Applications In: Clinical Applications of  
Magnetoencephalography  
Editors: Tobimatsu shozo, Kakigi Rusuke  
Springer Japan, in press

## 【分担執筆】

1. 長峯 隆  
南山堂医学事典 第20版 2015年  
南山堂

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## ○Pub Med 掲載論文 (2014 年)

1. Ito E<sup>1</sup>, Yamagishi M<sup>2</sup>, Takigami S<sup>3</sup>, Sakakibara M<sup>3</sup>, Fujito Y<sup>4</sup>, Lukowiak K<sup>5</sup>.  
The Yerkes-Dodson law and appropriate stimuli for conditioned taste aversion in *Lymnaea*.  
J Exp Biol. 2014 Dec 18. pii: jeb.113266. [Epub ahead of print]
2. Mita K<sup>1</sup>, Yamagishi M<sup>2</sup>, Fujito Y<sup>3</sup>, Lukowiak K<sup>4</sup>, Ito E<sup>5</sup>.  
An increase in insulin is important for the acquisition conditioned taste aversion in *Lymnaea*.  
Neurobiol Learn Mem. 2014 Dec;116:132-8. doi: 10.1016/j.nlm.2014.10.006. Epub 2014 Oct 25.
3. Ichihara-Takeda S<sup>1</sup>, Yazawa S, Murahara T, Toyoshima T, Shinozaki J, Ishiguro M, Shiraishi H, Ikeda N, Matsuyama K, Funahashi S, Nagamine T.  
Modulation of Alpha Activity in the Parieto-occipital Area by Distractors during a Visuospatial Working Memory Task: A Magnetoencephalographic Study.  
J Cogn Neurosci. 2014 Sep 22:1-11. [Epub ahead of print]
4. Shibasaki H<sup>1</sup>, Nakamura M<sup>2</sup>, Sugi T<sup>2</sup>, Nishida S<sup>3</sup>, Nagamine T<sup>4</sup>, Ikeda A<sup>5</sup>.  
Automatic interpretation and writing report of the adult waking electroencephalogram.  
Clin Neurophysiol. 2014 Jun;125(6):1081-94. doi:10.1016/j.clinph.2013.12.114.Epub 2014 Jan 21.
5. Enatsu R<sup>1</sup>, Nagamine T<sup>2</sup>, Matsubayashi J<sup>3</sup>, Maezawa H<sup>4</sup>, Kikuchi T<sup>5</sup>, Fukuyama H<sup>3</sup>, Mikuni N<sup>6</sup>, Miyamoto S<sup>1</sup>, Hashimoto N<sup>7</sup>.  
The modulation of rolandic oscillation induced by digital nerve stimulation and self-paced movement of the finger: a MEG study.  
J Neurol Sci. 2014 Feb 15;337(1-2):201-11. doi: 10.1016/j.jns.2013.12.011. Epub 2013 Dec 12.
6. Wang B<sup>1</sup>, Wang X<sup>2</sup>, Ikeda A<sup>3</sup>, Nagamine T<sup>4</sup>, Shibasaki H<sup>5</sup>, Nakamura M<sup>6</sup>.  
Automatic reference selection for quantitative EEG interpretation: identification of diffuse/localised activity and the active earlobe reference, iterative detection of the distribution of EEG rhythms.  
Med Eng Phys. 2014 Jan;36(1):88-95. doi: 10.1016/j.medengphy.2013.10.002. Epub 2013 Oct 30.
7. Maezawa H<sup>1</sup>, Matsubashi M<sup>2</sup>, Yoshida K<sup>3</sup>, Mima T<sup>2</sup>, Nagamine T<sup>4</sup>, Fukuyama H<sup>2</sup>.  
Evaluation of lip sensory disturbance using somatosensory evoked magnetic fields.  
Clin Neurophysiol. 2014 Feb;125(2):363-9. doi: 10.1016/j.clinph.2013.07.017. Epub 2013 Sep 12.



8. Mita K<sup>1</sup>, Okuta A<sup>2</sup>, Okada R<sup>3</sup>, Hatakeyama D<sup>3</sup>, Otsuka E<sup>3</sup>, Yamagishi M<sup>3</sup>, Morikawa M<sup>3</sup>, Naganuma Y<sup>3</sup>, Fujito Y<sup>4</sup>, Dyakonova V<sup>5</sup>, Lukowiak K<sup>6</sup>, Ito E<sup>7</sup>.  
What are the elements of motivation for acquisition of conditioned taste aversion?  
Neurobiol Learn Mem. 2014 Jan;107:1-12. doi: 10.1016/j.nlm.2013.10.013. Epub 2013 Oct 29.

9. Maezawa H<sup>1</sup>, Mima T<sup>2</sup>, Yazawa S<sup>3</sup>, Matsuhashi M<sup>2</sup>, Shiraishi H<sup>4</sup>, Hirai Y<sup>5</sup>, Funahashi M<sup>5</sup>.  
Contralateral dominance of corticomuscular coherence for both sides of the tongue during human tongue protrusion: An MEG study.  
Neuroimage. 2014 Nov 1;101:245-55. doi: 10.1016/j.neuroimage.2014.07.018. Epub 2014 Jul 17.

## ○その他論文 (2014 年)

### 1. 長峯 隆

Ⅱ局所症状と原因病巣 1. 運動障害

脳神経外科診療プラクティス 脳神経外科医のための脳機能と局在診断  
(三國信啓, 深谷 親 編)東京 : 文光堂 ; 2014. p 14-20

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## ○Pub Med 掲載論文 (2013 年)

1. Kawamura M, Ishiguro M, Nagamine T, Houkin K.  
Sarpogrelate dilates cerebral arteries in the absence of exogenous serotonin.  
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2. Wang B, Wang X, Ikeda A, Nagamine T, Shibasaki H, Nakamura M.  
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6. Enatsu R, Nagamine T, Matsubayashi J, Maezawa H, Kikuchi T, Fukuyama H, Mikuni N, Miyamoto S, Hashimoto N.  
The modulation of rolandic oscillation induced by digital nerve stimulation and self-paced movement of the finger: A MEG study.  
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1. Shinozaki J, Harada K, Nagahama H, Sakurai Y, Akatsuka Y, Nagamine T, Kochiyama T.  
In the range of 20 to 35 ms, an echo-time of 20 ms is preferred for 3-tesla functional magnetic resonance imaging.  
Adv. Biomed. Eng. 2: 47-54. 2013
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