(B)

2013　2016

Overseas survey of early diagnosis of dementia and proposal of international standards by research and development of standardized technology and clinical experiments

WU Jinglong

12,800,000

Dementia is a higher brain dysfunction, and its early diagnosis is limited to questionnaire inquiries, and technology for early diagnosis and its international standards have not been established yet.

In this project, we will utilize our research results on the early diagnosis of dementia, and search the development of experimental equipment and objective inspection methods. Then, we will conduct international clinical trials using cognitive methods. The combining of ERP and fMRI method was used to measuring early diagnosis of dementia. Finally, according to the results of overseas search on international situation of early diagnosis of dementia, the results of clinical experiments, we will propose the international standards for early diagnosis of dementia.

2012　8　24
305　　　　　10
180　　　　　　　　2025
470　　　　8000
　　　　　21

　　　　　　fMRI

　　　　　　　　　　　　)

fMRI

　　　　　37　　　　　72
2　　　1

　　　　　　37

1　Jiajia Yang, Ryo Kitada, Takanori Kochiyama, Yinghua Yu, Kai Makita, Yuta Araki, Jinglong Wu, and Norihiro Sadato: Brain networks involved in tactile speed classification of moving dot patterns: the effects of speed and dot periodicity, Science Reports,　　　, 2017, 7, 40931, 10.1038/strep40931

2　Yanna Ren, Weiping Yang, Kohei Nakahashi, Satoshi Takahashi, Jinglong Wu: Audiovisual Integration Delayed by Stimulus Onset Asynchrony Between Auditory and Visual Stimuli in Older Adults, Perception,　　　　　　　, Vol 46, Issue 2, 2017, 205-218, 10.1177/0301006616673850

3　Jiayue Guo, Bin Wang, Seiichiro Ohno, Susumu Kanazawa and Jinglong Wu: The Differences in Neural Response to Faces and Non-Faces in the FFA: Evidence from the Central to Peripheral Visual Field Neuroscience and Biomedical Engineering,　　　, Volume 4, Number 4, 2016, 282-287, 10.2174/2213385205666170117143856

4　Yinghua Yu, Jiajia Yang, Hiroki Matsumoto, Jinglong Wu: Interactions Between Haptic and Visual Perceptions of Fine Surface Texturerce Neuroscience and Biomedical Engineering,　　　, Volume 4, Number 2, 2016, 113-119, 10.2174/2213385204666160503161135

5　Qiong Wu, Jiajia Yang, Chunlin Li, Yujie Li, Zhihan Xu, Yoshimichi Ejima, Yasuyuki Ohta, Koji Abe, Jinglong Wu: Enhancement of Delayed Audiovisual Response in Parkinson's Disease: A Comparison with Normal Aged Controls, Neuroscience and Biomedical Engineering,　　　, Volume 4, Number 2, 2016, 125-131(7), 10.2174/2213385204666160618080622

6　Tianyi Yan, Xiaoshan Bi, Mengmeng Zhang, Wenhui Wang, Zhiqi Yao, Weiping Yang, Jinglong Wu: Age-related oscillatory theta modulation of multisensory integration in frontocentral regions,　　　, Neuroreport, Vol.27,　　　　　　　　　　　　No.11, 2016,796-801,10.1097/WNR.0000000000000609

7　Bin Wang, Tianyi Yan, Seiichiro Ohno, Susumu Kanazawa, Jinglong Wu: Retinotopy and attention to the face and house images in the human visual cortex, Experimental Brain Research,　　　, Vol.234, No.6, 2016, 1623-1635, 10.1007/s00221-016-4562-3

8　Jaime Gomez-Ramirez, Yujie Li, Qiong Wu, Jinglong Wu: A Quantitative Study of Network Robustness in Resting-State fMRI in Young and Elder Adults, Frontiers in Aging Neuroscience,　　　, Vol.7, 2016, 10.3389/fnagi.2015.00256

9　Weiping Yang, Yanna Ren, Dan Ou yang, Xue Yuan, Jinglong Wu: The Influence of Selective and Divided Attention on Audiovisual Integration in Children, Perception,　　　, Vol. 45, No. 5, 2016, 515-526, 10.1177/0301006616629025

10 Bin Wang, Jiayue Guo, Tianyi Yan, Seiichiro Ohno, Susumu Kanazawa, Qiang Huang, Jinglong Wu: Neural

Responses to Central and Peripheral Objects in the Lateral Occipital Cortex, , Frontiers in Human Neuroscience, 2016, 10.3389/fnhum.2016.00054

11 Satoshi Takahashi, Yanna Ren, Haibo Wang, Naotsugu Kitayama, Zhiwei Wu, Jinglong Wu: Relative Position of the Fingers Affects Length Perception while Grasping Objects, Neuroscience and Biomedical Engineering, , Vol.4, No.1, 2016, 67-74,10.2174/2213385204999160426162248

12 Satoshi Takahashi, Zhihan Xu, Masanori Tanida, Jinglong Wu: Effect of Aging on the Human Kinetic Visual Field, Neuroscience and Biomedical Engineering, , Vol.4, No.1, 2016, 50-56, 10.2174/2213385204666151203215946

13 Jiajia Yang, Mohd Usairy, Yinghua Yu, Satoshi Takahashi, Zhenxin Zhang, Jinglong Wu: Development and Evaluation of a Tactile Cognitive Function Test Device for Alzheimer's Disease Early Detection. Neuroscience and Biomedical Engineering, , Vol.3, Issue2, 2015, 58-65, 10.2174/2213385203666150804001349

14 Liancun Zhang, Jiajia Yang, Yinghua Yu, Satoshi Takahashi, Yuta Araki, Qiang Huang, Jinglong Wu: Speed Matching Interaction between Visual and Tactile Motion.Neuroscience and Biomedical Engineering, , Vol.3, No.1, 2015, 20-26, 10.2174/2213385203666150703164036

15 Xiaoyu Tang, Jinglong Wu, Shengyuan Yu: The interactions of multisensory integration with endogenous and exogenous attention. Neuroscience & Biobehavioral Reviews, , Vol.61, 2015, 208-224, 10.1016/j.neubiorev.2015.11.002

16 Weiping Yang, Jiajia Yang, Yulin Gao, Xiaoyu Tang, Yanna Ren, Satoshi Takahashi, Jingling Wu: Effects of sound frequency on audiovisual integration: an event-related potential study, PLoS One, , 2015, Vol 10, 9, e0138296, http://dx.doi.org/10.1371/journal.pone.0138296

17 Qi Li, Huamin Yang, Fang Sun, Jinglong Wu: Spatiotemporal Relationships among Audiovisual Stimuli Modulate Auditory Facilitation of Visual Target Discrimination, Perception, ,Vol.44(3), 2015, 232-242, 10.1068/p7846

18 Yujie Li, Chunlin Li, Qiong Wu, Zhihan Xu, Tomoko Kurata, Seiichiri Ohno, Susumu Kanazawa, Koji Abe, Jinglong Wu: Decreased resting-state connections within the visuospatial attention-related network in advanced aging, Neurosci Letters, , Vol.597, 2015, 13-18, 10.1016/j.neulet.2015.03.047

19 Jaime Gomez-Ramirez, Jinglong Wu: Network based biomarkers in Alzheimer's disease: review and future directions, Frontiers in Aging Neuroscience, , Vol 6, 12, 2014

20 Weiping Yang, Bingqian Chu, Jiajia Yang, Yinghua Yu, Jinglong Wu, Shengyuan Yu: Elevated audiovisual temporal interaction in patients with migraine without aura: The Journal of Headache and Pain, , 2014, Vol 15, 44, 1-14

21 Qiong Wu, Chunlin Li, Yujie Li, Hongzan Sun, Qiyong Guo, Jinglong Wu: An fMRI Study of the Neural Systems Involved in Visually Cued Tactile Top-Down Spatial and Temporal Attention, Neuroscience and Biomedical Engineering, , 2014, Vol.2, Issue1, 29-37

22 Yulin Gao, Qi Li, Weiping Yang, Jingjing Yang, Xiaoyu Tang and Jinglong Wu, Effects of ipsilateral and bilateral auditory stimuli on audiovisual integration: a behavioral and event-related potential study NeuroReport, , Vol.25, No.9, 2014, 668-675

23 Tianyi Yan, Bin Wang, Yaqi Yan, Yansong Geng, Yuji Yamasita, Jinglong Wu and Qiyong Guo, Attention Influence Response of Ebbinghaus Illusion in the Human Visual Area, INFORMATION, , Vol.17, No.1, 2014, 335-347

24 Xiujun Li, Zhenglong Lin, Qiyong Guo and Jinglong Wu, Posterior insula role on semantic processing for Japanese in Chinese-Japanese bilinguals, INFORMATION, , Vol.17, No.6(A), 2014, 2445-2461

25 Yinghua Yu, Jiajia Yang, HongZan Sun, Qiyong Guo and Jinglong Wu, MRI-Compatible Tactile Orientation Stimulator to Investgate Neural Mechanisms of Tactile Orientation Discrimination, NFORMATION, , Vol.17, No.6(A), 2014, 2463-2472

26 Qi Li, Yan Wu, Jingjing Yang, Jinglong Wu, Tetsuo Touge: The temporal reliability of sound modulates visual detection: An event-related potential study, Neuroscience Letters, , Vol.584, 201 202-207, 10.1016/j.neulet.2014.10.030

27 Zhuo Zhao, Chunlin Li, Jingling Wu: Motomi Toichi, Visual Orienting Attention was Influenced by Auditory Processing, International Journal of Biomaterials Research and Engineering (IJBRE), , Vol.1, Issue 2, 2013, 30-40, 10.4018/ijbre.2023070103

28 _____ _____ , , Vol.49, No.1, 2013, 18-24, http://dx.doi.org/10.5100/jie.49.18

29 Xiaoyu Tang, Chunlin Li, Qi Li, Yulin Gao, Weiping Yang, Jingjing Yang, Soushirou Ishikawa, Jinglong Wu: Modulation of Auditory Stimulus Processing by Visual Spatial or Temporal Cue: An Event-Related Potentials Study, Neuroscience Letters, , Vol.553, 2013,40-45, http://dx.doi.org/10.1016/j.neulet.2013.07.22

30 Weiping Yang, Qi Li, Tatsuya Ochi, Jingjing Yang, Yulin Gao, Xiaoyu Tang, Satoshi Takahashi, Jinglong Wu: Effects of Auditory Stimuli in the Horizontal Plane on Audiovisual Integration: An Event-Related Potential Study, PLoS ONE, , Vol.8, Issue6, 2013, e66402, 10.1371/journal.pone.0066402

31 Bin Wang, Tianyi Yan, Jinglong Wu, Kewei Chen, Satoshi Imajyo, Seiichiro Ohno, Susumu Kanazawa: Regional Neural Response Differences in the Determination of Faces or Houses Positioned in a Wide Visual Field, PLoS ONE, , Vol8, Issue8, 2013, e72728, 101371/journal.pone.0072728

32 Ming Zhang, Xiaoyu Tang, Jinglong Wu: Blocking the Link between Stimulus and Response at Previously Attended Locations: Evidence for Inhibitory Tagging Mechanism, Neuroscience and Biomedical Engineering, , Vol.1, No.1, 2013, 13-21, 10.2174/2213385211301010004

33 Yinghua Yu, Jiajia Yang, Jinglong Wu: Limited persistence of tactile working memory resources during delay-dependent grating orientation discrimination, Neuroscience and Biomedical Engineering, , Vol.1, No.1, 2013, 65-72, 10.2174/2213385211301010011

34 Geqi Qi, Bin Wang, Jinglong Wu, Satoshi Takahashi, Seiichiro Ohno and Susumu Kanazawa: Different Attentional Modulation in the Visual Word Form Area and Parahippocampal Place Area, Neuroscience and Biomedical Engineering, , vol1, Issue2, 2013, 146-152, 10.2174/2213385202666140207003227

35 Jingjing Yang, Qi Li, Weiping Yang, Jinglong Wu: Enhancement of Visual Detection by Temporal Alignment of Visual-auditory Stimuli: A Behavioral and Event-Related Potential Study, Information, , Vol.16, No.1, 2013, 527-534

36 Qu Li, Jingjing Yang, Jinglong Wu and Noriyoshi Kakura: Spatial Location of Andiovisual Stimuli Affects the latwncy of Multisensory Integration around 340 to 400 ms, Information, , Vol.16, No.7, 2013, 4841-4851,

37 Jinglong Wu, Bin Wang, JiaJia Yang, Yuu Hikino, Satoshi Takahashi, Tianyi Yan, Seiichiro Ohno, Susumu Kanazawa: Development of a method to present wide-view visual stimuli in MRI for peripheral visual studies, Journal of Neuroscience Methods, , Vol.214, Issue 2, 2013, 126-136 http://dx.doi.org/10.1016/j.jneumeth.2013.01.021

72

1 Jiayue Guo, Bin Wang, Jinglong Wu, Seiichiro Ohno, Susumu Kanazawa: The neural activation in fusiform face area for object perception in wode Visual field International Conference on Cognitive Systems and Information Processing, ICCSIP, 2016.11.19-23, Beijing

2 Qiong Wu, Jiajia Yang, Yinghua Yu, Masayuki Yoshitake, Satoshi Takahashi, Yoshimichi Ejima, Jinglong Wu: Aging effect of pedal errors of driving under different audiovisual conditions, ICAHFELBV, 2016.07-26-31, USA

3 Yiyang Yu, Sihan Lu, Yan Wu, Qiong Wu, Jinglong Wu: The Influence of Chinese Compounds Morphological Processing by Morpheme Awareness Training for the Chinese Learning Beginners, ICME, 2016.08.04-06, Tochigi

4 Yuka Matsuda, Jiajia Yang, Satoshi Takahashi, Yoshimichi Ejima, Kiyoshi Nakahara, Hiroaki Shigematu, Hiroshi Kadota, Jinglong Wu: Audio-visual Cross-modal Priming Effect in Japanese Katakana Discrimination Task: An fmri Study, ICME, 2016.08.04-06, Tochigi

5 Liu Yang, Yinghua Yu, Jiajia Yang, Satoshi Takahashi, Yoshimichi Ejima, Jinglong Wu: Relationship between Spatiotemporal Integration of Tatile Information and Somatic Sensory Memory in Human Somatosensory Cortex: A Somatosensory Evoked Potentials Study, ICME, 2016.08.04-06, Tochigi

6 Zhihan Xu, Chunlin Li, Qiong Wu, Yujie Li, Yuta Kataoka, Satoshi Takahashi, and Jinglong Wu: A Basic Study for Improving the Predictability of Amber Traffic Lights: Comparing the Brief and Long Interval Rhythm Prediction, ICMA, 2016.08.07-10, Harbin

7 Yanna Ren, Weiping Yang, Xiaoyu Tang, Satoshi Takahashi, Kohei Nakahashi, Jinglong Wu: Effects of audiovisual integration by stimulus onset asynchronies between auditory and vision, ICME, 2015.06.18-21, Okayama

8 Mohd Usairy Syafiq, Jiajia Yang, Jinglong Wu: Applicability in screening tests for cognitive impairment and consideration towards decreases in tactile discrimination ICME, 2015.06.18-21, Okayama

9 Ryuta Kitani, Jiajia Yang, Yinghua Yu, Akinori Kunita, Satoshi Takahashi, Jinlong Wu, Qiushi Fu, Marco Santello: Behavioral evidence for motor learning and transfer without visual feedback ICME, 2015.06.18-21, Okayama

10 Mohd Usairy Syafiq bin Samain, Jiajia Yang, Jinglong Wu Applicability in screening tests for cognitive impairment and consideration towards decreases in tactile discrimination, ICME, 2015.06.18-21, Okayama

11 Xiaoyu Tang, Chunlin Li, Qi Li, Yulin Gao, Weiping Yang, Jingjing Yang, Ishikawa Soushirou, Satoshi Takahashi, Jinglong Wu: Effects of spatial and temporal attention on audiovisual integration: an event-related potentials study, ICME, 2015.06.18-21, Okayama

12 Qiong Wu, Chunlin Li, Yujie Li, Zhihan Xu, Hongzan Sun, Qiyong Guo, Jinglong Wu: Frontal-parietal Network Play an Important Role in Visually Cued Tactile Spatial and Temporal Attention, ICME, 2015.06.18-21, Okayama

13 Geqi Qi, Takafumi Suzuki, Jiajia Yang, Hiroaki Shigemasu, Kiyoshi Nakahara, Hiroshi Kadota, Jinglong Wu: Visual and auditory cross modality priming during Japanese word processing, ICME, 2015.06.18-21, Okayama

14 Ryuta Kitani, Jiajia Yang, Yinghua Yu, Akinori Kunita, Satoshi Takahashi, Jinlong Wu, Qiushi Fu, Marco Santello: Behavioral evidence for motor learning and transfer without visual feedback, ICME, 2015.06.18-21, Okayama

15 Satoshi Takahashi, Jinglong Wu, JiaJia Yang, Koji Abe: A New Approach of Audiovisual Integration for Early Detection of Dementia, International Conference on Brain Informatics and Health, 2014.08.13, Warsaw

16 Jinglong Wu, Satoshi Takahashi, JiaJia Yang, Koji Abe: Early Detection of Alzheimer's Disease with a Novel Tactile Cognitive Approach, ICBIH, 2014.08.13, Warsaw

17 Qiong Wu, Yujie Li, Zhihan Xu, Goshi Miyamoto

Chunlin Li Oono Seiichiro, Kanazawa Susumu Jinglong Wu: An fMRI Study on the Effect of Distance in the Shifting of Visuospatial Attention, ICMA, 2014.8.3-6, Tianjin

18 Yang Feng, Bing Wang, Jiajia Yang, Jinglong Wu, Seiichiro Ohno, Yuuta Shibai: The DTI Study on Visual Corte V6 of Human Brain, ICMA, 2014.8.3-6, Tianjin

19 Di Chen, Jiajia Yang, Yinghua Yu, Ryousuke Goto, Satoshi Takahashi, Jinglong Wu: Development of a magnetic resonance -compatible tactile orientation delivery system, ICMA, 2014.8.3-6, Tianjin

20 Zhihan Xu, Chulin Li, Qiong Wu, Jujie Li, Yuta Kataoka, Jinglong Wu, Seiichiro Ohno, Susumu Kanazawa: Different Neural Network for Exogenous Temporal Expectations under Sub-second and Supra-second in fMRI, ICMA, 2014.8.3-6, Tianjin

21 Yang Liu, Yinghua Yu, Jiajia Yang, Yoshinobu Inai, Jinglong Wu: Ability to Recognize and Identify the Location of Vibration Stimulation on the Fingers, ICMA, 2014.8.3-6, Tianjin

22 Yansong Geng, Ruolan Bai, Shichen Xie, Tianyi Yan, Bin Wang, Jinglong Wu:Support Vector Machine Model for the Parcellation of the Human Visual Motion Cortical Areas MT+, ICME, 2014.06.26-29, Taiwan

23 Xiaoyu Tang, Chunlin Li, Qi Li, Yulin Gao, Weiping Yang, Jingjing Yang, Ishikawa Soushirou, Satoshi Takahashi, Jinglong Wu: Effects of spatial and temporal attention on visual stimulus processing: an event-related potentials study, ICME, 2014.06.26-29, Taiwan

24 Weiping Yang Jiajia Yang Xiaoyu Tang, Jinglong Wu: Effects of audiovisual interaction by temporal gaps between visual and auditory stimuli in the human brain, ICME, 2014.06.26-29, Taiwan

25 Bin Wang, Tianyi Yan, Jinglong Wu, Seiichiro Ohno, Susumu Kanazawa: Hemispheric Asymmetries in the Retinotopy of Attention to Face Image in the Human Visual Cortex, ICME, 2014.06.26-29, Taiwan

26 Fengxia Wu, Miao Cao Weiping Yang, Yuki Ohara, Jinglong Wu: Effects of visual spatial frequency on audiovisual integration in a visual selective attention task, ICME, 2014.06.26-29, Taiwan

27 Qi Li, Jingjing Yang, Yulin Gao, Jinglong Wu: Unpredictable auditory spatial information modulates spatial-congruent audiovisual integration, The Six International Conference on Information, 2013, Tokyou

28 Qi Li, Jingjing Yang, Jinglong Wu: Temporal-spatial unpredictable auditory information modulates temporal-spatial coincident audiovisual integration, ICME, 2013, Beijing

29 Lu Yang, Jiajia Yang, Naoya Nakamura, Jinglong Wu, Seiichiro Ohno, Tomoko Kurata, Koji Abe, Susumu Kanazawa: Difference of Audiovisual Integration between Alzheimer's Disease Patients and Age-matched Healthy Controls: An fMRI Study, ICME, 2013, Beijing

30 Weiping Yang, Qi Li, Tatsuya Ochi, Jingjing Yang, Yulin Gao, Xiaoyu Tang, Satoshi Takahashi, Jinglong Wu: Influences of auditory stimuli in front and rear space on visual detection: An event-related potential study, ICME, 2013.05.25-28, Beijing

31 Yujie Li, Chunlin Li, Yuya Kawata, Jinglong Wu, Tomoko Kurata, Seiichiro Ohno, Susumu Kanazawa, Koji Abe: Decreased brain activation along with increased interstimulus interval in the Posner Task, ICME, 2013.05.25-28, Beijing

32 Jiayue Guo, Bin Wang, Jinglong Wu, Seiichiro Ohno, Susumu Kanazawa: The neural activation in human brain for object perception in wide field, ICME, 2013.05.25-28, Beijing

33 Bin Wang, Tianyi Yan, Jiajia Yang, Jinglong Wu, Seiichiro Ohno, Susumu Kanazawa: Different Neural Response in Human Ventral Visual Cortex for the Face and House in a Wide Visual Field, ICME, 2013.05.25-28, Beijing

34 Zhenglong Lin, Xiujun Li, Qiyong Guo, Jinglong Wu: Morphology of Chinese and Japanese kanji processing in Chinese-Japanese bilinguals an fMRI study, ICME, 2013.05.25-28, Beijing

35 Liancun Zhang, Jiajia Yang, Yoshinobu Inai, Qiang Huang, Jinglong Wu: Age-Related Differences in Pointing Movements in Restricted Visual Tasks and Their Design Implication, ICME, 2013.05.25-28, Beijing

36 Geqi Qi, Bin Wang, Satoshi Takahashi, Seiichiro Ohno, Susumu Kanazawa, Jinglong Wu: Differential Sensitivity for House Pictographs and Chinese Logographs in the Parahippocampal Place Area, ICME, 2013.05.25-28, Beijing

37 Mohd Usairy Syafiq, Yinghua Yu, Jiajia Yang, Jinglong Wu: Development of a Tactile Angle Stimuli Presentation Device for Tactile Cognitive Function Discrimination, ICMA, 2013.08.47-07, Takamatsu

38 Bin Wang, Jinglong Wu, JiaJia Yang, Yuu Hikino, Satoshi Takahashi, Tianyi Yan, Seiichiro Ohno, and Susumu Kanazawa: Development of a Wide-View Visual Presentation System for Functional MRI Studies of Peripheral Visual, IC BHI, 2013.10.29-31, Qianqiao

2

1 Jinglong Wu, IGI Global: Improving the Quality of Life for Dementia Patients through Progressive Detection, Treatment, and Care, 2017, 353

2 Weiping Yang, Yulin Gao, Jinglong Wu, IGI Global: Effects of Selective and Divided Attention on Audiovisual Interaction, Biomedical Engineering and Cognitive Neuroscience for Healthcare, 2013 311-319

2014   504709   P2014   504709
25   3   14

○

6100754
29   3   22

(1)
Wu Jinglong

30294648

(2)
Abe Koji

20212540

Kanazawa susumu

20243511

Takahashi Satoshi

20236277

Yang Jiajia