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| **Brain Sciences** | |
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| **Research background:**  Brain science is a new research field of neural biology, information science, cognitive science, computer science and other interdisciplines. It has become an important research frontier of Natural Science in twenty-first Century, and is promoted to the national strategic level by the government, as China will start the investment of brain projects in the scale of tens of billions.  The Neural Science Research Institute, the Affiliated Hospital of Medical School, Qiushi Academy for Advanced Studies, College of Biomedical Engineering and Instrument Science, College of Optical Science and Engineering, College of Computer Science and Technology, College of Information and Electronic Engineering, combine their strength on the brain science. | |
| **Main research topics and progress:**  **Main research topics:**  1. Study on magnetic resonance imaging of multi-modal brain imaging science and engineering based on Neural  2. Magnetic resonance imaging and optical synchronous composite  3. Transparent brain trans-synaptic fluorescent virus markers two-photon imaging technology  4. Application of iron nanoparticles radio remote activation of specific neurons and nerve in the treatment of mental illness.  5. Artificial intelligence, brain computer interface  6. Chinese Brain Bank  7. The research of nervous and mental diseases  **Progress:**  1. The international first-class brain science research cross technology platform scale, 7T NMR has been installed, which entered the experimental stage.  2. Cognitive neuroscience and brain computer interface study is in close cooperation with the hospital.  3. The pathogenesis of neuropsychiatric disorders, the discovery of new drug targets; breakthrough of traditional artificial intelligence has developed smoothly.  4. The construction of Chinese Brain Bankis almostcompleted. 90 cases of brain have been collected and brain researchers for the brain samples are provided.  5. The research of nervous and mental diseases, isfocusing on epilepsy, Alzheimer's disease, Parkinson's disease and autism, depression, schizophrenia and other important mental illness. | |
| **Member and college:**  DUAN Shumin, Academician, School of Medicine  WU Zhaohui, Academician, College of Computer Science and Technology  LI Xiaoming, School of Medicine  CHEN Zhong, School of Medicine  HU Hailan, School of Medicine  BAO Aimin, School of Medicine  WU Zhiying, The Second Affiliated Hospital of Zhejiang University  Anna Wang Roe, Qiushi Academy for Advanced Studies  ZHENG Xiaoxiang,Qiushi Academy for Advanced Studies  LIU Xu, College of Optical Science and Engineering | |
| **Representative achievements:**  1. The brain alliance has been working on 59 technology projects,including those at the national and provincial level, with atotal research funding of more than 160 million yuan.  2. 75 SCI papers were published, including1 article in"Science" and 2 articles in "Nature",with an impact factor of around 10.  3. The invention patent application and authorization are added up to 48. Among them there are 11 authorized patents.  4. Zhejiang University School of Medicine Chinese BrainBankhas completed the initial construction.  5. Brain Alliance recruits 25 outstanding scholars, including 1 member of American Academy of Science, 2 Cheung Kongscholars, 3 Distinguished Young Scholars, 3 Outstanding Young Professionals, 6 Young Overseas High-level Talents  6. Nine international conferences on brain science were held, which improves the international reputation of the Allianceamong brain research institutions.  7. The Alliance attended the Science and Technology Innovation Exhibitionon behalf of Zhejiang University. | |