

A search for answers on lung diseases

From investigating fungal pneumonia, improving lung nodule imaging, to identifying mechanisms, Anhui Medical University is leading **THE FIGHT AGAINST LUNG DISEASES**.

Jiabin Li, a researcher at Anhui Medical University, is working to unravel the causes of fungal pneumonia. He led a team that explored the mechanism of gut microbiota acting on the lung's immune responses to *Klebsiella pneumonia*, a common cause of pneumonia-derived sepsis. They found that gut microbiota could protect against bacterial pneumonia, suggesting a

potential in targeting the gut microbiota to intervene.

Li also led research investigating early predictors of secondary invasive pulmonary aspergillosis (IPA) in patients with severe fever with thrombocytopenia syndrome (SFTS). They found that B-type natriuretic peptide was essential for IPA occurrence in severe SFTS patients, suggesting its



Aspergillus fumigatus fungus (pictured) causes fungal pneumonia.

importance for early diagnosis.

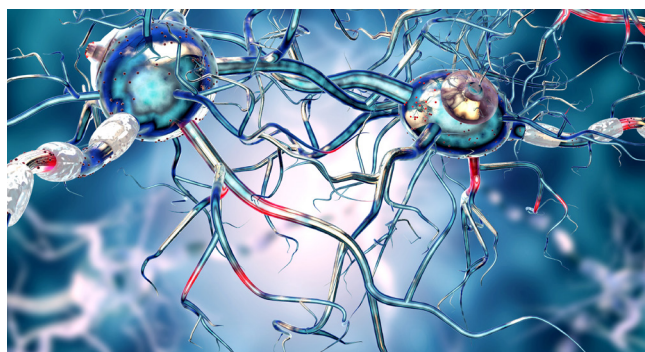
Guanghe Fei is one of AHMU's pulmonary experts, specializing in clinical, imaging and pathological management of pulmonary nodules. One of his papers is about microbiota changes in lungs, specifically the effect of microbiota imbalance

on chronic obstructive pulmonary disease. He also investigated the role of the toll-like receptor 2 (TLR2)-melatonin feedback loop in regulating allergic airway inflammation in a mouse model, in the hope of finding a new therapeutic avenue for asthma. ■

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A different approach for neuropsychiatric disorders

Researchers at Anhui Medical University have developed Chinese-specific neuropsychological tests to **MEASURE COGNITIVE FUNCTION**.



Anhui Medical University is looking into neurological disease mechanisms.

Kai Wang's group at Anhui Medical University is exploring the mechanisms of neurological diseases, and developing key technologies for brain modulation in schizophrenia, depression, Alzheimer's disease, and Parkinson's disease.

The group has established Chinese versions of neuropsychological tests to measure cognitive function, and explored cognitive, neuroimaging and biological markers in neuropsychiatric disorders. They have also investigated the neural mechanisms of neuropsychiatric disorders at the gene, brain, and behaviour levels. For example, they proposed a schizophrenia neuromarker using a machine learning method of resting-state functional magnetic resonance imaging (rs-fMRI). They also developed an algorithm to map

the functional organization of an individual, which benefited surgical planning and brain stimulation.

Another noteworthy achievement of Wang's group is the development of key technologies for brain modulation in neurological diseases, especially new stimulation sequence patterns and precise stimulation targets of transcranial magnetic stimulation (TMS). These technologies provide new approaches for the treatment of neurological diseases. ■



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