

EMI Best Paper Awards (2019-2021)

2019

First Place Award

Title: Replication and virulence in pigs of the first African swine fever virus isolated in China.

Authors: Dongming Zhao, Renqiang Liu, Xianfeng Zhang, Fang Li, Jingfei Wang, Jiwen Zhang, Xing Liu, Lulu Wang, Jiaoer Zhang, Xinzhou Wu, Yuntao Guan, Weiye Chen, Xijun Wang, Xijun He & Zhigao Bu

EMI comments: A timely report with thorough molecular virology work to isolate the pathogen which caused the outbreak of African Swine Fever Virus in China

Second Place Award

Title: Heat shock protein 70 (Hsp70) mediates Zika virus entry, replication, and egress from host cells.

Authors: Sujit Pujhari, Marco Brustolin, Vanessa M. Macias, Ruth H. Nissly, Masashi Nomura, Suresh V. Kuchipudi & Jason L. Rasgon

EMI comments: A key report to identify Hsp70 as a major player in Zika virus infection

Third Place Awards- A

Title: CRISPR-based rapid and ultra-sensitive diagnostic test for Mycobacterium tuberculosis

Authors: Jing-Wen Ai, Xian Zhou, Teng Xu, Minling Yang, Yuanyuan Chen, Gui-Qing He, Ningp Pan, Yuwei Cai, Yongjun Li, Xiaorui Wang, Hang Su, Ting Wang, Weiqi Zeng & Wen-Hong Zhang

EMI comments: A highly novel and potentially useful approach to diagnose TB infection

Third Place Awards- B

Title: A specific class of infectious agents isolated from bovine serum and dairy products and peritumoral colon cancer tissue.

Authors: Ethel-Michele de Villiers, Karin Gunst, Deblina Chakraborty, Claudia Ernst, Timo Bund & Harald zur Hausen

EMI comments: A novel report with out-of-box thinking and potential major health impact.

2020

First Place Award

Title: Genomic characterization of the 2019 novel human-pathogenic coronavirus isolated from a patient with atypical pneumonia after visiting Wuhan

Authors: Jasper Fuk-Woo Chan, Kin-Hang Kok, Zheng Zhu, Hin Chu, Kelvin Kai-Wang To, Shuofeng Yuan & Kwok-Yung Yuen

EMI comments: This is one of the first COVID-19 reports in the world with well described SARS-CoV-2 viral gene structure.

Second Place Award

Title: Molecular and serological investigation of 2019-nCoV infected patients: Implication of multiple shedding routes

Authors: Wei Zhang, Rong-Hui Du, Bei Li, Xiao-Shuang Zheng, Xing-Lou Yang, Ben Hu, Yan-Yi Wang, Geng-Fu Xiao, Bing Yan, Zheng-Li Shi & Peng Zhou

EMI comments: This is the first report from Wuhan to show the SARS-CoV-2 specific IgM and IgG responses in patients' sera and the detection of SARS-CoV-2 virus in GI track.

Third Place Awards- A

Title: Hypothesis for potential pathogenesis of SARS-CoV-2 infection—a review of immune changes in patients with viral pneumonia

Authors: Ling Lin, Lianfeng Lu, Wei Cao & Taisheng Li

EMI comments: This is a report from frontline physicians working in Wuhan observing COVID-19 caused vasculitis and treatment with low molecular weight heparin (LVWH).

Third Place Awards- B

Title: No credible evidence supporting claims of the laboratory engineering of SARS-CoV-2

Authors: Shan-Lu Liu, Linda J. Saif, Susan R. Weiss & Lishan Su

EMI comments: This paper provided scientific analysis to reject the theory that SARS-CoV-2 is a laboratory engineered virus.

2021

First Place Award

Title: Heterologous prime-boost: breaking the protective immune response bottleneck of COVID-19 vaccine candidates

Authors: Qian He, Qunying Mao, Chaoqiang An, Jialu Zhang, Fan Gao, Lianlian Bian, Changgui Li, Zhenglun Liang, Miao Xu & Junzhi Wang

EMI comments: This is the most read EMI in 2021 due to its finding that heterologous prime-boost is a high effective approach to enhance the protective immune responses against SARS-CoV-2. This finding has been supported by many subsequent reports using the same approach in humans or using different specific COVID-19 vaccines.

Second Place Award

Title: Emergence and spread of novel H5N8, H5N5 and H5N1 clade 2.3.4.4 highly pathogenic avian influenza in 2020

Authors: Nicola S. Lewis, Ashley C. Banyard, Elliot Whittard, Talgat Karibayev, Thamer Al Kafagi, Ilya Chvala, Alex Byrne, Saduakassova Meruyert (Akberovna), Jacqueline King, Timm Harder, Christian Grund, Steve Essen, Scott M. Reid, Adam Brouwer, Nikolay G. Zinyakov, Azimkhan Tegzhanov, Victor Irza, Anne Pohlmann, Martin Beer, Ron A. M. Fouchier, Sultanov Akhmetzhan (Akievich) & Ian H. Brown

EMI comments: The rapid and wide spread of H5 influenza viruses is a major concern of emerging infections. This report analyzed the highly pathogenic strain H5Nx clade 2.3.4.4. Heterogeneity

in Eurasian of this avian influenza threatens poultry production, food security and veterinary public health.

Third Place Award - A

Title: Genotype I African swine fever viruses emerged in domestic pigs in China and caused chronic infection

Authors: Encheng Sun, Lianyu Huang, Xianfeng Zhang, Jiwen Zhang, Dongdong Shen, Zhenjiang Zhang, Zilong Wang, Hong Huo, Wenqing Wang, Haoyue Huangfu, Wan Wang, Fang Li, Renqiang Liu, Jianhong Sun, Zhijun Tian, Wei Xia, Yuntao Guan, Xijun He, Yuanmao Zhu, Dongming Zhao & Zhigao Bu

EMI comments: The authors reported identification of Genotype I African Swine Fever Viruses (ASFV) in China while Genotype II ASFV with high virulence has been prevalent in China since 2018. This finding raised serious challenges for the control and prevention of ASFV in China and beyond.

Third Place Award - B

Title: Trained immunity contributes to the prevention of Mycobacterium tuberculosis infection, a novel role of autophagy

Authors: Jie Zhou, Jingzhu Lv, Chelsea Carlson, Hui Liu, Hongtao Wang, Tao Xu, Fengjiao Wu, Chuanwang Song, Xiaojing Wang, Ting Wang & Zhongqing Qian

EMI comments: This review summarized general characteristics of enhanced innate immunity (under the name of trained immunity) in controlling TB and roles of autophagy in this process.