



## **HONG SHANG MD, PhD**

Professor of Medicine, Doctoral Supervisor  
President of the First Affiliated Hospital of  
China Medical University

### **CURRICULUM VITAE SUMMARY**

Medical Degree, China Medical University,  
“Clinical Medicine”, July 1983.

PhD, University of Yamanashi, “Ecology” ,  
March, 1996.

### **APPOINTMENTS**

- 1994/11-1997/8 Associate Professor/Associate Chief Physician, Department of Laboratory Medicine, The First Affiliated Hospital of China Medical University
- 1997/9- present Professor/Chief Physician, Department of Laboratory Medicine, The First Affiliated Hospital of China Medical University
- 2000/6- present Professor/Chief Physician/Dean, Key Laboratory of AIDS Immunology of National Health and Family Planning Commission
- 2003/7-2014/2 Vice President/Professor, The First Affiliated Hospital of China Medical University
- 2013/2- present Vice President/Professor, China Medical University
- 2014/2-present President/Professor, The First Affiliated Hospital of China Medical University

### **SCIENTIFIC SOCIETY MEMBERSHIP**

- 2008/7-2014/12 President, Chinese Society of Laboratory Medicine
- 2013-present Chairman Designate, Chinese Medical Doctor Association of Lab Medicine
- 2010/8-present Chairman, Technical Committee for Laboratory, China National Accreditation Service for Conformity Assessment
- 2010/10-present Chief Editor, Chinese Journal of Laboratory Medicine
- 2010/4-2015 Executive Director, Chinese Medical Association
- 2014/5-present Vice President, Laboratory Technicality Board of China National Accreditation Service for Conformity Assessment
- 2015/4-present Member, State Council Discipline (Clinical Medicine) Degree Review Board

- 2015/7-present Vice President, National Prevention & Control of STD/AIDS Expert Association
- 2016/2-present Member of the standing Committee, Integrative Medical Committee of the Chinese Medical Doctor Association
- 2016/2-present Chairman, Academic Board of Chinese Association of STD and AIDS Prevention and Control
- 2016/5-present Member of the standing Committee, Precise Medicine Committee of the Chinese Medical Doctor Association
- 2016/8-present Executive Director, China Hospital Association

### **MORE THAN 100 PAPERS IN ALL**

10 SELECTED PAPERS (\* represents first/correspondence):

- 1) Clinical Findings in 111 Cases of Influenza A (H7N9) Virus Infection. Gao HN\*, Lu HZ\*, Cao B\*, Du B\*, Shang H\*, Gan JH, Lu SH, Yang YD, Fang Q, Shen YZ, Xi XM, Gu Q, Zhou XM, Qu HP, Yan Z, Li FM, Zhao W, Gao ZC, Wang GF, Ruan LX, Wang WH, Ye J, Cao HF, Li XW, Zhang WH, Fang XC, He J, Liang WF, Xie J, Zeng M, Wu XZ, Li J, Xia Q, Jin ZC, Chen Q, Tang C, Zhang ZY, Hou BM, Feng ZX, Sheng JF, Zhong NS, Li LJ. NEW ENGLAND JOURNAL OF MEDICINE. 2013 Jun 13;368(24):2277-85.
- 2) Bring safe sex to China. Shang H\*, Xu J, Han X, Spero Li J, Arledge KC, Zhang L. NATURE. 2012 May 30;485(7400):576-577.
- 3) HIV, hepatitis B virus, and hepatitis C virus co-infection in patients in the China National Free Antiretroviral Treatment Program, 2010-12: a retrospective observational cohort study. Zhang F, Zhu H, Wu Y, Dou Z, Zhang Y, Kleinman N, Bulterys M, Wu Z, Ma Y, Zhao D, Liu X, Fang H, Liu J, Cai WP, Shang H\*. LANCET INFECTIOUS DISEASES. 2014 Nov;14(11):1065-1072.
- 4) MSM and HIV-1 infection in China. Hong Shang\* and Linqi Zhang. National Science Review.2015;2(4): 388-391.
- 5) Transcriptomic Analysis of Peripheral Blood Mononuclear Cells in Rapid Progressors in Early HIV Infection Identifies a Signature Closely Correlated with Disease Progression. Zhang ZN, Xu JJ, Fu YJ, Liu J, Jiang YJ, Cui HL, Zhao B, Sun H, He YW, Li QJ, Shang H\*. CLINICAL CHEMISTRY. 2013 Aug;59(8):1175-86.
- 6) Rapid Diagnostic Tests for Identifying Avian Influenza A(H7N9) Virus in Clinical Samples. Chen Y, Wang D, Zheng S, Shu Y, Chen W, Cui D, Li J, Yu H, Wang Y, Li L, Shang H\*. EMERGING INFECTIOUS DISEASES. 2015 Jan;21(1):87-90.
- 7) A Large-scale Survey of CRF55\_01B from Men-Who-Have-Sex-with-Men in China: implying the Evolutionary History and Public Health Impact. Han X, Takebe Y, Zhang W, An M, Zhao B, Hu Q, Xu J, Wu H, Wu J, Lu L, Chen X, Liang S, Wang Z, Yan H, Fu J, Cai W, Zhuang M, Liao C, Shang H\*. SCIENTIFIC REPORTS. 2015 Dec 15;5: 18147
- 8) Reconstituting the Epidemic History of HIV Strain CRF01\_AE among Men Who Have

- Sex with Men (MSM) in Liaoning, Northeastern China: Implications for the Expanding Epidemic among MSM in China. An M, Han X, Xu J, Chu Z, Jia M, Wu H, Lu L, Takebe Y, Shang H\*. JOURNAL OF VIROLOGY.2012 Nov;86(22):12402-6.
- 9) Genetic and Neutralization Sensitivity of Diverse HIV-1 env Clones from Chronically Infected Patients in China. Shang H\*, Han X, Shi X, Zuo T, Goldin M, Chen D, Han B, Sun W, Wu H, Wang X, Zhang L. JOURNAL OF BIOLOGICAL CHEMISTRY. 2011 Apr 22;286(16):14531-41.
- 10) Multilayered HIV-1 gag-specific T-cell responses contribute to slow progression in HLA-A\*30-B\*13-C\*06-positive patients. Zhang H, Han X, Zhao B, An M, Wang Z, Jiang F, Xu J, Zhang Z, Dong T, Shang H\*. AIDS. 2015 Jun 1;29(9):993-1002.

#### **PATIENTS**

- 1) “Biomarker of HIV/AIDS disease progression miR-31”-patent of invention Patent No.ZL201210305977.5
- 2) “Biomarker of HIV/AIDS disease progression miR-526a”-patent of invention Patent No.ZL201210305978.X
- 3) “Biomarker of HIV/AIDS disease progression miR-503”- patent of invention Patent No.ZL201210305175.4
- 4) “Biomarker of HIV/AIDS disease progression miR-99a”-patent of invention Patent No.ZL201210306109.9
- 5) “Biomarker of HIV/AIDS disease progression miR-200c”- patent of invention Patent No.ZL201210305841.4

#### **AWARDS AND HONORS**

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| 1999, 2004, 2014 | Liaoning Provincial Science and Technology Progress Award, First Grade |
| 2007, 2008, 2015 | National Award for Scientific and Technological Progress, Second Grade |
| 2014             | HLHL foundation for scientific and Technological Progress Award        |
| 2015             | Prize «French National Academy of Medicine-Servier»                    |

#### **REVIEW EXPERIENCE**

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| 2010/10-present | Chief Editor, Chinese Journal of Laboratory Medicine          |
| 2009/07-2012/01 | Editorial Board of Clinical Chemistry and Laboratory Medicine |
| 2014-present    | Reviewer, PLoS ONE  |
| 2016/8-present  | Editor, Therapeutic Drug Monitoring                           |

## **SUMMARY OF RESEARCH WORK**

Professor Hong Shang has focused on the fields of Laboratory Medicine and AIDS prevention and treatment for almost 20 years. Through extensive international cooperation, she made amounts of scientific achievements.

She has been committed to establishing a highly effective clinical evaluation platform for anti-HIV drugs, which conforms to the international standard and improves the clinical transformation ability in China. She has established and optimized the biomarker detection system and individuation efficacy and safety monitor system of anti-HIV drugs, including the research of therapeutic drug monitoring, evaluation of curative effect and adverse effect, pharmacokinetic studies and metabonomics. She also investigated the dynamic change characteristics of viruses repository and immune reconstruction after antiviral treatment, to carry out the accurate individualized treatment suitable for Chinese population.

Through large-sample epidemiological and molecular epidemiological studies, she and her team revealed the constantly increasing HIV prevalence rate among Men who have Sex with Men (MSM) in China, and confirmed that this population has constituted the majority of new HIV infection cases in China. She reported the HIV epidemic and features of Chinese MSM to the world for the first time and highlighted the social discrimination and traditional culture are crucial factors fueling HIV epidemic among Chinese MSM. She firstly expounded the propagation of HIV viral strains among Chinese MSM and the characteristics of epidemic and identified the origins, dissemination routes and scales of 3 major HIV strains among Chinese MSM.

She first discovered 2 novel recombinant viruses (CRF55\_01B, CRF59\_01B) internationally, providing new targets for HIV transmission surveillance in China and representative epidemic strains of China for constitution of international standard pseudotyped virus platform. This finding is well recognized and applied in more than 20 countries and regions in the world and significantly increased the standardization level of HIV neutralizing antibodies and membrane protein research. Through studies of large-sample Molecular Immunology study, she demonstrated that Chinese MSM has more rapid disease progression and its correlated factors. She screened out a group of miRNA biomarkers which can predict HIV disease progression at early stage, and the predictive effectiveness is 94%. This finding is published with thematic review which valued it as "opens up a approach to the diagnosis of HIV-1 infections in clinical laboratories and evaluating the prognosis for HIV-1 infection". Through large-scale nationwide cohort studies, Professor Shang illustrated a high co-infection rate and unsatisfied treatment outcome of HIV, HBV and HCV. Therefore, she proposed to integrate the treatment and prevention of hepatitis into the AIDS prevention and treatment strategy. Also, according to the high HIV incidence rate and large number of blood donation behaviors among Chinese MSM, the HIV transmission risk during "window period" is dangerously high. Professor Shang recommended National Blood Bank to carry out the nucleic acid screening to further secure the safety of blood for clinical use. She first created the "triple" comprehensive intervention strategy which reduced HIV incidence of MSM by 63%.