

## SBS Seminar Announcement

### Biography of Prof. Jian Li

Professor Jian Li is an Australian National Health and Medical Research Council (NHMRC) Senior Research Fellow. He is the Head of the Antibiotic Research Group within the theme of Drug Delivery, Disposition and Dynamics, Monash Institute of Pharmaceutical Sciences, Monash University.

Dr Li is an international leader in the pharmacology of polymyxins (microbiology, chemistry, pharmacokinetics, pharmacodynamics and nephrotoxicity) and discovery and development of new antibiotics against Gram-negative 'superbugs'. The majority of modern polymyxin pharmacology data were reported by his group. Dr Li has 134 publications with 3,134 citations and an *h*-index of 30. His polymyxin research alone has led to 102 papers in high-calibre international journals in antimicrobial chemotherapy and infectious diseases, two book chapters and 76 presentations at international and national conferences. He is ranked the first among the authors publishing the 2,243 papers on colistin/polymyxin B since 1947 (ISI Web of Knowledge®, 12/11/2013). His invited review in the *Lancet Infectious Diseases*, the best journal in infectious diseases (impact factor 19.966), has 360 citations and is ranked top 6 cited article published between 2006 and 2011 in that journal. His three papers on colistin pharmacokinetics and pharmacodynamics were ranked top 5 of the antibacterial PK/PD papers in any journals in 2011 and 2012 at the Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC; the premier international conference in antimicrobial chemotherapy). Furthermore, he is the Editor-in-Chief of the first book on polymyxins which will be published by Springer in 2015. Dr Li is a member of the Colistin Working Group of the National Institutes of Health (NIH) / National Institute of Allergy and Infectious Diseases (NIAID), and the Working Group of the International Society of Anti-infective Pharmacology (ISAP).

Dr Li has been frequently invited to chair symposia and present lectures at internationally leading conferences in antimicrobial chemotherapy and infectious diseases. He was the deputy chair of the organising committee of the 1st International Conference on Polymyxins (Prato, Italy; 2-4 May 2013). He was invited to chair polymyxin pharmacology symposia at the 51st (2011), 52nd (2012) and 54th (2014) ICAAC, and delivered symposium lectures on the mechanisms of polymyxin activity, resistance and nephrotoxicity at the 49th (2009), 52nd (2012), 53rd (2013) and 54th (2014) ICAAC. In addition, he was invited to present his polymyxin research at a number of other international conferences, including a highly respected Gordon Research Conference: New Antibacterial Discovery & Development, in Galveston (TX, USA) in 2010, and the 14th International Conference on Pseudomonas in Lausanne (Switzerland) in 2013. He is a member of the executive committee of the Victoria Infection & Immunity Network, and an organising committee member of the 2012, 2013 and 2014 Lorne Infection & Immunity Conferences.

Dr Li is an Associate Editor of *BMC Microbiology*, and a member of the Editorial Boards of 5 international journals, including *Diagnostic Microbiology and Infectious Disease*. He is an invited guest co-editor for a special theme issue in an internationally leading journal *Advanced Drug Delivery Reviews* (impact factor 12.888). He is a regular reviewer for the top antimicrobial chemotherapy journals, *Antimicrobial Agents and Chemotherapy* and *Journal of Antimicrobial Chemotherapy*. He is also an invited reviewer for another 57 international journals including the top two infectious diseases journals *The Lancet Infectious Diseases* and *Clinical Infectious Diseases*. Dr Li has been an invited assessor of grant and/or fellowship applications for the Australian National Health and Medical Research Council (NHMRC), Australian Research Council (ARC), the British Society for Antimicrobial Chemotherapy, the Health Research Board of Ireland, the Netherlands Organisation for Scientific Research, and the Dutch Organisation for Health Research and Development.

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### Biography of Prof. Jian Li (cont.)

He is a member of the American Society for Microbiology, the International Society of Anti-infective Pharmacology, the Australian Society for Antimicrobials, the Australasian Pharmaceutical Science Association, and the European Society of Clinical Microbiology and Infectious Diseases.

Dr Li's research is very well supported by funding from a number of granting bodies. Since 2004 he has been awarded 35 grants (totally ~\$26.0 M, 24 as CIA) by NHMRC/ARC (~\$6.0 M), American National Institutes of Health (NIH, US\$19.2 M for five R01 projects, three of which are administered through Monash University), Department of Innovation, Industry, Science and Research (\$0.2 M), National Natural Science Foundation of China (~\$0.15 M), Australian Academy of Science, Ian Potter Foundation, national and international pharmaceutical companies and other grant bodies (\$0.5 M). **A highlight is that he has been awarded three large 5-year NIH R01 projects since 2012 on discovery of new antibiotics and re-development of polymyxins against Gram-negative 'superbugs' (US\$13.5 M; PD/PI [i.e. CIA]).** In addition, He was CIB and CIC of another two NIH R01 grants on polymyxins that were awarded in 2007/2008; both NIH R01 grants were cited by the Chief of Bacteriology and Mycology Branch (NIAID/NIH) in the 51st ICAAC (2009) Meet-the-Experts session as the most successful example of how NIH supports global research targeting antimicrobial resistance. **NIH funds are extremely competitive and the multiple R01 awards to an Australian institution are a great accomplishment. This clearly demonstrates his international leadership in polymyxin research.**

Dr Li leads a large research group comprising of 4 research fellows, 5 research assistants and 6 PhD candidates. He also co-supervises another 4 PhD candidates. He has supervised 6 postdoc fellows, 5 visiting scientists, 4 research assistants, 6 PhD students (two were the recipients of the Mollie Holman Medal for Doctoral Thesis Excellence by The Faculty of Pharmacy, Monash University, 2007 and 2012), 8 Honours students and 18 vacation scholar students to successful completion. Dr Li's research programs are: (1) pharmacokinetics and pharmacodynamics of polymyxins; (2) mechanisms of activity, resistance, nephrotoxicity and neurotoxicity of polymyxins using systems biology and molecular imaging; (3) discovery of novel antimicrobials, including novel lipopeptides against polymyxin-resistant pathogens; (4) antimicrobial chemotherapy against multidrug-resistant Gram-negative bacteria, particularly *Pseudomonas aeruginosa*, *Acinetobacter baumannii* and *Klebsiella pneumoniae*; (5) novel combinations of antimicrobials with antibacterial, anti-pathogenic and anti-biofilm effects; and (6) novel formulations of antimicrobials and combinations using smart nanotechnology. His research targets an urgent global medical challenge, antibiotic resistance and lack of new antibiotics against Gram-negative 'superbugs'.