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Senior Group Leader
Division: Molecular Cloning and Sequencing
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Employment History

2002 Sr. Group Leader
Molecular Cloning & Sequencing
Genome Institute of Singapore
1999-2002 Director, Core Genomics and Applications
Large Scale Biology Corporation, Vacaville, California, USA
1996-1999 Sr. Scientist, Genome Technology, Monsanto Company
St. Louis, Missouri, USA

Research Focus

My primary interest is to elucidate the structures and dynamics of all functional DNA elements in complex genomes through transcriptome characterizations. To facilitate such understanding we have been developing paired end ditag based high throughput and high precision DNA sequencing and mapping methodologies. We also push to apply these sequencing-based technologies to address complex biological questions such as how cancer cells progress and how stem cells maintain their unique properties. Another major interest of mine is to discover previously uncharacterized microbial genes and genomes that are relevant to human health. To this end, we have established a metagenome analysis capability that includes a filtration system for isolating uncultured viral particles, shotgun DNA sequencing and genome sequence assembling techniques to uncover viral genome sequences from. We are currently trying to characterize the viral flora in human GI system.

Academic Qualifications

1995-1996 Post-doctoral Fellow, Program of Gene Discovery and Gene

Expression, Monsanto Company, St Louis, Missouri, USA
1990-1994 Doctor of philosophy in Plant Molecular Biology
University of Maryland, College Park, Maryland, USA

Recent Publications (2003-present)

1. Patrick Ng, Chia-Lin Wei, Wing-Kin Sung, Kuo Ping Chiu, Leonard Lipovich, Chin Chin Ang, Sanjay Gupta, Atif Shahab, Azmi Ridwan, Chee Hong Wong, Edison T. Liu, **Yijun Ruan** (2005) "Gene Identification Signature (GIS) Analysis for Transcriptome Characterization and Genome Annotation". *Nature Methods* 2: 105-111
2. Wei Chia Lin, Takumi Miura, Robson Paul, Lim Sai-Kiang, Xiu-qin Xu, Mathia Yu-Chuan Lee, Gupta Sanjay, Stanton W Lawrence, Yongquan Luo, Jacqui Schmitt, Scott Thies, Wei Wang, Irina Khrebtukova, Daixing Zhou, Liu Tak-Bun Edison, **Ruan Yijun**, Mahendra Rao, Lim Bing (2005) "Transcriptome Profiling of Murine and Human ES Cells Identifies Divergent Paths Required to Maintain the Stem Cell State". *Stem Cells* 23: 166-185
3. Liu Jianjun, Lam L.S., **Ruan Yijun**, Ling A.E., Dorsten C., Liu Tak-Bun Edison, Stanton W Lawrence, Hibberd Lloyd Martin (2004) "SARS-CoV transmission epidemiology revealed by MALDI-TOF mass spectrometry-based viral genotyping" *PLoS Medicine* 2: e43
4. Gerhard DS, Wagner L, Feingold EA, Shenmen CM, Grouse LH, Schuler G, Klein SL, Old S, Rasooly R, Good P, Guyer M, Peck AM, Derge JG, Lipman D, Collins FS, ..., **Ruan Y**, ..., MGC Project Team (2004) "The status, quality, and expansion of the NIH full-length cDNA project: the Mammalian Gene Collection (MGC)". *Genome Research* 14: 2121-2127.
5. Wei Chia Lin, Ng Patrick Wei Pern, Chiu Kuo Ping, Chee Hong Wong, Chin Chin Ang, Lipovich Leonard, Liu Edison Tak-Bun, **Ruan Yijun** (2004) "5' Long serial analysis of gene expression (LongSAGE) and 3' LongSAGE for transcriptome characterization and genome annotation" . *Proc Natl Acad Sci U S A*. 101(32):11701-6.

6. Lim P.L., Kurup A., Gopalakrishna G., Chan K.P., Wong Wing-Cheong Christopher, Ng L.C., Su Yun S.T., Oon L., Bai X., Stanton W Lawrence, **Ruan Yijun**, Miller D Lance, Vinsensius B Vega S, James L., Ooi P.L., Kai C.S., Olsen S.J., Ang B., Leo Y.S. (2004) "Laboratory-acquired SARS-Singapore 2003". *New Eng J Med* 350: 1740-1745
7. Vinsensius B Vega S, **Ruan Yijun**, Liu Jianjun, Lee W.H., Wei Chia Lin, Su Yun S.T., Tang K.F., Zhang Tao, Lin S., Kolatkar R Prasanna, Eong O.E., Ling A.E., Stanton W Lawrence, Long P.M., Liu Tak-Bun Edison (2004) "Mutational dynamics of the SARS corona virus in cell culture and human population". *BMC Infectious Diseases* 4(1): 32-40.
8. **Ruan Y**, Le Ber P, Ng HH, Liu ET. (2004) "Interrogating the transcriptome". *Trends in Biotechnology* 22(1): 23-30.
9. **Ruan Yijun**, Wei Chia Lin, Ling Ai Ee, Vinsensius Vega S B, Thoreau Herve, Su Yun Se Thoe, Chia Jer-Ming, Ng Wei Pern Patrick, Chiu Kuo Ping, Lim Landri, Zhang Tao, Chan Kwai Peng, Lynette Oon Lin Ean, Ng Mah Lee, Leo Yee Sin, Ng Fong-Poh Lisa, Ren Chee Ee, Stanton W Lawrence, Long M. Philip, Liu Tak-Bun Edison (2003) "Comparative full-length genome sequence analysis of 14 SARS coronavirus isolates and common mutations associated with putative origins of infection". *Lancet* 361 (9371): 1779-85