

BIOGRAPHICAL SKETCH

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NAME	POSITION TITLE		
Ruan, Yijun	Sr. Group Leader, Genome Technology & Biology Group Associate Director, Genome Technology Genome Institute of Singapore		
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Huazhong Agricultural University, China	BS	1982	Microbiology
Huazhong Agricultural University, China	MS	1985	Microbiology
University of Maryland, College Park, USA	PhD	1994	Molecular biology
<i>Monsanto Company, St Louis, MO, USA</i>	PostDoc	1995	Genomics

A. Research Statement

My primary interest is to elucidate the structures and dynamics of all functional DNA elements in complex genomes through transcriptome characterizations and genome interrogation. To facilitate such understanding we have developed Paired-End-diTag (PET) based high throughput and high precision DNA sequencing and mapping methodologies. We are applying these sequencing-based measurements to address complex biological questions such as how cancer cells progress and how stem cells maintain their unique properties.

B. Positions and Honors.

2003 –	Associate Director, Genome Technology, Genome Institute of Singapore, Singapore
2002 –	Sr. Group Leader, Genome Technology and Biology, Genome Institute of Singapore,
1999 – 2002	Director, Core Genomics and Applications, Large Scale Biology Corporation, Vacaville, California
1996 –1999	Senior Scientist, Plant Genomics Program, Monsanto Company, St. Louis, USA
1995-1996	Scientist, Gene expression and disease control programs, Monsanto Company, St. Louis, USA
1998-2001	Rockefeller Foundation Fellowship in Biotechnology
2006	National Science Award 2006, Singapore

C. Selected key publications

1. Lusy Handoko, Han Xu, Guoliang Li, Chew Yee Ngan, Elaine Chew, Charlie Wah Heng Lee, Chaopeng Ye, Eleanor Wong, Yubo Zhang, Fabianus Mulawadi, Jianpeng Sheng, Thompson Poh, Chee Seng Chan, Galih Kunarso, Atif Shahab, Guillaume Bourque, Valere Cacheux-Rataboul, Wing-Kin Sung, **Yijun Ruan***, Chia-Lin Wei* (2011) Functional Genome Architecture Revealed by CTCF-Associated Chromatin Interactome in Pluripotent Cells. Nature Genetics 43: 630–638 (June 19, 2011)
2. Axel M. Hillmer, Yao Fei1, Koichiro Inaki, Wah Heng Lee, Pramila N. Ariyaratne, Audrey S.M. Teo, Xing Yi Woo, Zhenshui Zhang, Zhao Hao, Leena Ukil, Jieqi P. Chen, Zhu Feng, Jimmy B.Y. So, Manuel Salto-Tellez, Wan Ting Poh, Kelson F.B. Zawack, Hui Ping J. Lim, Yee Yen Sia, Chee Seng Chan, See Ting Leong, Say Chuan Neo, Poh Sum D. Choi, Hervé Thoreau, Patrick B.O. Tan, Atif Shahab, Xiaolan Ruan, Jonas Bergh, Per Hall, Valère Cacheux-Rataboul, Chia-Lin Wei, Khay Guan Yeoh, Wing-Kin Sung, Guillaume Bourque, Edison T. Liu, **Yijun Ruan*** (2011) Comprehensive Long Span Paired-End-Tag Mapping Reveals

- Characteristic Patterns of Structural Variations in Epithelial Cancer Genomes. Genome Research 21 (5): 665-675 (May 01, 2011)
3. **Yijun Ruan** (2011) Presenting the Human Genome: NOW IN 3D. Science 331: 1025-1026
 4. Edwin Cheung and **Yijun Ruan*** (2011) Determination of transcription factor binding. Nature Genetics 43: 11-12 (January 2011)
 5. Guoliang Li, Melissa J. Fullwood, Han Xu, Fabianus Hendriyan Mulawadi, Stoyan Velkov, Vinsensius B Vega S N, Pramila Nuwantha Ariyaratne, Yusoff Bin Mohamed, Hong-Sain Ooi, Chandana Tennakoon, Chia-Lin Wei1, **Yijun Ruan***, Wing-Kin Sung* (2010). ChIA-PET Tool: A comprehensive software for chromatin interaction analysis with paired-end-tag sequencing. Genome Biology 11:R22
 6. Melissa J. Fullwood, Mei Hui Liu, You Fu Pan, Jun Liu, Xu Han, Yusoff Bin Mohamed, Yuriy L. Orlov, Stoyan Velkov, Andrea Ho, Poh Huay Mei, Elaine G. Y. Chew, Phillips Yao Hui Huang, Willem-Jan Welboren, Yuyuan Han, Hong-Sain Ooi, Pramila N. Ariyaratne, Vinsensius B. Vega, Yanquan Luo, Peck Yean Tan, Pei Ye Choy, K. D. Senali Abayratna Wansa, Bing Zhao, Kar Sian Lim, Shi Chi Leow, Jit Sin Yow, Roy Joseph, Haixia Li, Kartiki V. Desai, Jane S. Thomsen, Yew Kok Lee, R. Krishna Murthy Karuturi, Thoreau Herve, Guillaume Bourque, Hendrik G. Stunnenberg, Xiaoan Ruan, Valere Cacheux-Rataboul, Wing-Kin Sung, Edison T. Liu, Chia-Lin Wei, Edwin Cheung, and **Yijun Ruan*** (2009). An oestrogen-receptor- α -bound human chromatin interactome. Nature 462: 58-64.
 7. Melissa J. Fullwood, Chia Lin Wei, Edison T. Liu, and **Yijun Ruan*** (2009) Next-Generation DNA Sequencing of Paired End diTags for Transcriptome and Genome Analysis (Review) Genome Research 19: 521-532.
 8. Chia-Lin Wei, Qiang Wu, Vinsensius Vega, Kuo Ping Chiu, Patrick Ng, Tao Zhang, Atif Shahab, How Choong Yong, YuTao Fu, Zhiping Weng, Jian Jun Liu, XiaoDong Zhao, Yen Ling Lee, Vladimir A. Kuznetsov, Ken Sung, Bing Lim, Edison T. Liu, Qiang Yu, Huck Hui Ng, and **Yijun Ruan*** (2006) A Global Map of p53 Transcription Factor Binding Sites in the Human Genome. Cell 124: 207-219.
 9. Tao Zhang, Mya Breitbart, Wah Heng Lee, Jin-Quan Run, Chia Lin Wei, Shirlena Wee Ling Soh, Martin L. Hibberd1, Edison T. Liu, Forest Rohwer, and **Yijun Ruan*** (2006) RNA Viral Community in the Human Gut: Prevalence of plant pathogenic viruses. PLoS Biology 4: Issue 1, e3.
 10. 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, and **Yijun Ruan*** (2005) Gene Identification Signature (GIS) Analysis for Transcriptome Characterization and Genome Annotation. Nature Methods 2: 105-111.
 11. Wei Chia Lin, Ng Patrick Wei Pern, Chiu Kuo Ping, Chee Hong Wong, Chin Chin Ang, Lipovich Leonard, Liu Edison Tak-Bun, and **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. 101:11701-11706
 12. **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): 1779-1785