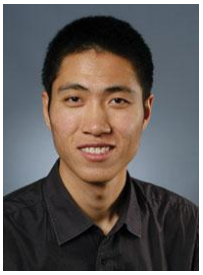
Curriculum Vitae of Jun WANG

Professor, PhD

Director of BGI

Distinguished Professor of State Key Laboratory for Quality Research in Chinese Medicines

Macau University of Science and Technology



Professor Wang obtained the Bachelor and PhD degrees from Peking University in 1997 and 2002, respectively. He is a Ph.D. supervisor, winner of National Science Fund for Distinguished Young Scholars, national 973 Plan chief scientist, director of BGI -Shenzhen, professor of University of Copenhagen and Aarhus University, visiting professor of Macau University of Science and Technology, Chinese University of Hong Kong and Sun Yat-sen University.

With interdisciplinary academic excellence in the fields of mathematical statistics, computer science and biology which he has been developing since joining the Human Genome Project in 1999, Prof. Wang has made successful achievements in many cutting-edge areas, such as the association of gut flora and complex diseases, human genetics research, single-cell cancer genome research, and the development of advanced bioinformatics tools. Accordingly, a number of pioneering and original scientific achievements with significant international influence have been yield. Up to June 2013, he has published 213 SCI papers (total SCI citation: 27151 times), among which he first/co-first or corresponding/co-corresponding authored 113; 85 were published in top-tier international scientific journals as *Nature* (and other Nature Publishing Group journals), *Science,The New England Journal of Medicine, Cell* (and other Cell Press

journals) and he first/co-first or corresponding/co-corresponding authored 54 (total SCI citation: 21593 times) of them. Among the major scientific and technological contributions of Prof. Wang, 9 research achievements were awarded "the world's top ten scientific and technological progress" and "(one of) the top ten scientific and technological progress in China" by academicians of EE the Chinese Academy of Science and Chinese Academy of Engineering ; 6 were awarded “the world's top ten scientific and technological news" and “the top ten scientific and technological news in China" by Science and Technology Daily; 3 were awarded “the top ten research news of Basic Science in China" jointly by the Ministry of science & technology and the China Association for Science and Technology. Many related articles have been selected as “Research Highlights” by Nature China. His research was financially supported by Ministry of Science and Technology，National Natural Science Foundation of China, Guangdong Province and Shenzhen City Government.

Due to his outstanding contributions to the fields of genomics and bioinformatics, Prof. Wang as an individual has received more than 20 awards, such as “Zhou Guangzhao Award” by the Zhou Guangzhao Foundation in 2013, “You Bring Charm to the World Award” by Phoenix TV in 2013, “Scientific Chinese for 2012” by China Association for Science in 2013,“Nature’s 10-Ten people who mattered this year” by Nature in 2012, “Youth Scientific Award in China” in 2011, “Guangdong Youth ‘May Fourth’ Medal” in 2011, “National Model Worker” in 2010, “the State Council Special Allowance” in 2008, “China's Top Ten Scientific and Technological Progress” in 2008，“Guangdong ‘May Day’ Labor Medal” in 2008,“National New Century BaiQianWan Talents” in 2006, “Royal Danish Foundation Award” in 2006, “the Chinese Academy of Sciences Outstanding Scientific and Technical Achievement Award” in 2003, “Outstanding Young People of the Central State Organs” in 2003, “Hong Kong QiuShi Foundation: Award for Excellent Scientific Team Achievements” in 2002, “the Major Chinese Academy of Sciences Major Innovation Award” in 2002.

Education:

July, 1997, B. Sc. (Peking University, Beijing, China)

July, 2002, D. Sc. (Peking University, Beijing, China)

Professional Chronology:

Mar.,1999-Apr.,2007	Researcher, Director of Bioinformatics, Director of Beijing Center, Beijing Genomics Research Center, as Beijing Genomics Institute, Chinese academy of sciences, Beijing, China
Aug., 2004- present	Visiting Professor, Institute of Human Genetics, University of Aarhus, Denmark
Sep., 2006-Sep., 2009	Ole Rømer Professor, Department of Human Genetics, Biochemistry and Molecular Biology, University of Southern Denmark, Denmark
Dec., 2008-Nov., 2011	Visiting Professor, Zhongshan School of Medicine, Sun Yat-sen University, Guangzhou, China
Dec., 2008-Dec., 2012	Executive Director/ Researcher, BGI, Shenzhen, China
Mar., 2009-present	Visiting Professor, School of Biomedical Sciences, The Chinese University of Hong Kong, Hong Kong, China
Oct., 2009-present	Ole Rømer Professor, Department of Biology, University of Copenhagen, Denmark
Jan., 2013-present	Director/ Researcher, BGI, Shenzhen, China
Jun., 2013-present	Distinguished Professor, Macau Institute for Applied Research in Medicine and Health, Macau University of Science and Technology, Macau, China

Teaching Subjects:

1) Bioinformatics Frontiers

Research Fields:

1) Bioinformatics

2) Genomics

3) Human Population Genetics

4) Chinese Herbs Modernization

Awards:

1) Nature's 10-Ten people who mattered this year, Nature , 2012
2) Zhou Guangzhao Award, Zhou Guangzhao Foundation, 2013
3) You Bring Charm to the World Award, Phoenix TV, 2013
4) Scientific Chinese for 2012, China Association for Science, 2013
5) Shenzhen Natural Science Prize for 2010, Shenzhen City, 2012
6) Shenzhen Technology Invention Prize for 2011, Shenzhen City, 2012
7) Youth Scientific Award in China, China Assosiation for Science and Technology, 2011
8) Guangdong Youth "May Fourth" Medal, Guangdong Provincial Government, 2011
9) National Model Worker, the State Council, 2010
10) Shenzhen Science and Technology Innovation Prize, Shenzhen City, 2009
11) the State Council Special Allowance, the State Council, 2008
12) Guangdong "May Day" Labor Medal, Guangdong Provincial Government, 2008
13) China's Top Ten Scientific and Technological Progress, Academicians of the Chinese Academy of Sciences and Chinese Academy of Engineering, 2008
14) Award for Science and Sino-Danish Collaboration, Denmark, 2007
15) National New Century BaiQianWan Talents, the China National Authorities, 2006
16) The Danish Research Council: Young Elite Scientist, Royal Danish Foundation Award, 2006
17) Chinese Academy of Sciences Outstanding Scientific and Technical Achievement Award, Chinese Academy of Sciences, 2003
18) Outstanding Young People of the Central State Organs, the China National

Authorities, 2003

19) Award for Excellent Scientific Team Achievements, Hong Kong QiuShi Foundation, 2002

20) the Major Chinese Academy of Sciences Major Innovation Award, Chinese Academy of Sciences, 2002

Selected Publications:

1) Y.-H. Huang, Y.-R. Li, D.-W. Burt, H.-L. Chen, Y. Zhang, W.-B. Qian, H.Kim, S.-Q. Gan, Y.-Q. Zhao, J.-W. Li, K. Yi, H.-P. Feng, P.-Y. Zhu, B. Li, Q.-Y. Liu, S. Fairley, K.-E. Magor, Z.-L. Du, X.-X Hu, L. Goodman, H. Tafer, A. Vignal, T. Lee, K.-W. Kim, Z.-Y. Sheng, Y. An, S. Searle, J. Herrero, M.-A M. Groenen, R.-P M A. Crooijmans, T. Faraut, Q.-L. Cai, R.-G. Webster, J.-R. Aldridge, W.-C. Warren, S. Bartschat, S. Kehr, M. Marz, P.-F. Stadler, J. Smith, R.-H S. Kraus, Y.-F. Zhao, L.-M. Ren, J. Fei, M. Morisson, P. Kaiser, D.-K. Griffin, M. Rao, F. Pitel, **J.Wang**, N. Li. The duck genome and transcriptome provide insight into an avian influenza virus reservoir species . *Nature Genetic.* **45,** 776–783, 2013.

2) X.-J. Zhan, S.-K. Pan, J.Y. Wang, A. Dixon, J. He, M.-G. Muller, P.-X. Ni, L. Hu, Y. Liu, H.-L. Hou, Y.-P. Chen, J.-Q Xia, Q. Luo, P.-W. Xu, Y. Chen, S.-G. Liao, C.-C. Cao, S.-K. Gao, Z.-B. Wang, Z. Yue, G.-Q Li, Y. Yin, N.-C. Fox, **J. Wang**, M.-W. Bruford. Peregrine and saker falcon genome sequences provide insights into evolution of a predatory lifestyle. *Nature Genetics*, **45,** 563–566, 2013.

3) H.-Q. Ling, S.-C. Zhao, D.-C. Liu, J.-Y. Wang, H. Sun, C. Zhang, H.-J. Fan, D. Li, L.-L. Dong, Y. Tao, C. Gao, H.-L. Wu, Y.-W. Li, Y. Cui, X.-S. Guo, S.-S. Zheng, B. Wang, K. Yu, Q.-S. Liang, W.-L. Yang, X.-Y. Lou, J. Chen, M.-J Feng, J.-B. Jian, X.-F. Zhang, G.-B. Luo, Y. Jiang, J.-J. Liu, Z.-B. Wang, Y.-H. Sha, B.-R. Zhang, H.-J. Wu, D.-Z. Tang, Q.-H. Shen, P.-Y. Xue, S.-H. Zou, X.-J. Wang, X. Liu, F.-M. Wang, Y.-P. Yang, X.-L. An, Z.-Y. Dong, K.-P. Zhang, X.-Q. Zhang, M.-C. Luo, J. Dvorak, Y.-P. Tong, J. Wang, H.-M. Yang, Z.-S. Li, D.-W. Wang, A.-M. Zhang, **J. Wang**. Draft genome of the wheat A-genome progenitor *Triticum urartu*. *Nature*, **496,** 87–90, 2013.

4) J.-Z. Jia, S.-C. Zhao, X.-Y. Kong, Y.-R. Li, G.-Y. Zhao, W.-M. He, R. Appels, M. Pfeifer, Y. Tao, X.-Y. Zhang, R.-L. Jing, C. Zhang, Y.-Z. Ma, L.-F. Gao, C. Gao, M.

Spannagl, K.-F. X. Mayer, D. Li, S.-K. Pan, F.-Y. Zheng, Q. Hu, X.-C. Xia, J.-W. Li, Q.-S. Liang, J. Chen, T. Wicker, C.-Y. Gou, H.-H. Kuang, G.-Y. He, Y.-D. Luo, B. Keller, Q,-J. Xia, P. Lu, J.-Y. Wang, H.-F. Zou, R.-Z. Zhang, J.-Y. Xu, J.-L. Gao, C. Middleton, Z.-W. Quan, G.-M. Liu, J. Wang, International Wheat Genome Sequencing Consortium, H.-M. Yang, X. Liu, Z.-H. He, L. Mao, **J. Wang**. *Aegilops tauschii* draft genome sequence reveals a gene repertoire for wheat adaptation. *Nature*, **496,** 91–95, 2013.

5) J.-F. Chen, Q.-F. Huang, D.-Y. Gao, J.-Y. Wang, Y.-S. Lang, T.-Y. Liu, B. Li, Z.-T. Bai, J.-L. Goicoechea, C.-Z. Liang, C.-B. Chen, W.-L. Zhang, S.-H. Sun, Y. Liao, X.-M. Zhang, L. Yang, C.-L. Song, M.-J. Wang, J.-F. Shi, G. Liu, J.-J. Liu, H.-L. Zhou, W.-L. Zhou, Q.-L. Yu, N. An, Y. Chen, Q.-L. Cai, B. Wang, B.-H. Liu, J.-M. Min, Y. Huang, H.-L. Wu, Z.-Y. Li, Y. Zhang, Y. Yin, W.-Q. Song, J.-M. Jiang, S. -A. Jackson, R.-A. Wing, **J. Wang**, M.-S. Chen. Whole-genome sequencing of *Oryza brachyantha* reveals mechanisms underlying *Oryza* genome evolution. *Nature Communications*, **4,** 1595, 2013.
6) Y. Fan, Z.-Y. Huang, C.-C. Cao, C.-S. Chen, Y.-X. Chen, D.-D. Fan, J. He, H.-L. Hou, L. Hu, X.-T. Hu, X.-T. Jiang, R. Lai, Y.-S. Lang, B. Liang, S.-G. Liao, D. Mu, Y.-Y. Ma, Y.-Y. Niu, X.-Q. Sun, J.-Q. Xia, J. Xiao, Z.-Q. Xiong, L. Xu, L. Yang, Y. Zhang, W. Zhao, X.-D. Zhao, Y.-T. Zheng, J.-M. Zhou, Y.-B. Zhu, G.-J. Zhang, **J. Wang**, Y.-G. Yao. Genome of the Chinese tree shrew. *Nature Communications*, **4,** 1426, 2013.
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8) R.-K. Varshney, C. Song, R.-K. Saxena, S. Azam, S. Yu, A.-G. Sharpe, S. Cannon, J. Baek, B.-D. Rosen, B. Tar'an, T. Millan, X.-D. Zhang, L.-D. Ramsay, A. Iwata, Y. Wang, W. Nelson, A.-D. Farmer, P.-M. Gaur, C. Soderlund, R.-V. Penmetsa, C.-Y. Xu, A.-K. Bharti, W.-M. He, P. Winter, S.-C. Zhao, J.-K. Hane, N. Carrasquilla-Garcia, J.-A. Condie, H.-D. Upadhyaya, M.-C. Luo, M. Thudi, C.-L.L. Gowda, N.-P. Singh, J. Lichtenzveig, K.-K. Gali, J. Rubio, N. Nadarajan, J. Dolezel,

K.-C. Bansal, X. Xu, D. Edwards, G.-Y Zhang, G. Kahl, J. Gil, K.-B. Singh, S.-K. Datta, S.-A. Jackson, **J.Wang**, D.-R. Cook. Draft genome sequence of chickpea (*Cicer arietinum*) provides a resource for trait improvement. *Nature Biotechnology*, **31,** 240–246, 2013.

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11) Y. Dong, M. Xie, Y. Jiang, N.-Q. Xiao, X.-Y. Du, W.-G. Zhang, G. Tosser-Klopp, J.-H. Wang, S. Yang, J. Liang, W.-B. Chen, J. Chen, P. Zeng, Y. Hou, C. Bian, S.-K. Pan, Y.-X. Li, X. Liu, W.-L. Wang, B. Servin, B. Sayre, B. Zhu, D. Sweeney, Ri. Moore, W.-H. Nie, Y.-Y. Shen, R.-P. Zhao, G.-J. Zhang, J.-Q. Li, T. Faraut, J. Womack, Y.-P. Zhang, J. Kijas, N. Cockett, X. Xu, S.-H. Zhao, **J. Wang**, W. Wang. Sequencing and automated whole-genome optical mapping of the genome of a domestic goat (*Capra hircus*). *Nature Biotechnology*, **31,** 135–141, 2013.

12) J.-J. Michaelson, Y.-J. Shi, M. Gujra, H.-C. Zheng, D. Malhotra, X. Jin, M.-H. Jian, G.-M. Liu, D. Greer, A. Bhandari, W.-T. Wu, R. Corominas, Á . Peoples, A. Koren, A. Gore, S.-L. Kang, G.-N. Lin, J. Estabillo, T. Gadomski, B. Singh, K. Zhang, N. Akshoomoff, C. Corsello, S. McCarroll, L.-M. Iakoucheva, Y.-R. Li, **J. Wang**, J. Sebat. Whole-genome sequencing in autism identifies hot spots for de novo germline mutation. *Cell*, **151,** 1431-1442, 2012.

13) G.-J. Zhang, C. Cowled, Z.-L. Shi, Z.-Y. Huang, K.-A. Bishop-Lilly, X.-D. Fang,

J.-W. Wynne, Z.-Q. Xiong, M.-L. Baker, W. Zhao, M. Tachedjian, Y.-B. Zhu, P. Zhou, X.-T. Jiang, J. Ng, L. Yang, L.-J. Wu, J. Xiao, Y. Feng, Y.-X. Chen, X.-Q. Sun, Y. Zhang, G.-A. Marsh, G. Crameri, C.-C. Broder, K.-G. Frey, L.-F Wang, **J. Wang**. Comparative analysis of bat genomes provides insight into the evolution of flight and immunity. *Science*, **339,** 456-460, 2012.

14) S.-G. Guo, J.-G. Zhang, H.-H. Sun, J. Salse, W. J. Lucas, H.-Y. Zhang, Y. Zheng, L.-Y. Mao, Y. Ren, Z.-W. Wang, J.-M. Min, X.-S. Guo, F. Murat, B.-K. Ham, Z.-L. Zhang, S. Gao, M.-Y. Huang, Y.-M. Xu, S.-L. Zhong, A. Bombarely, L. A. Mueller, H. Zhao, H.-J. He, Y. Zhang, Z.-H. Zhang, S.-W. Huang, T. Tan, E. Pang, K. Lin, Q. Hu, H.-H. Kuang, P.-X. Ni, B. Wang, J.-G. Liu, Q.-H. Kou, W.-J. Hou, X.-H. Zou, J. Jiang, G.-Y. Gong, K. Klee, H. Schoof, Y. Huang, X.-S. Hu, S.-S. Dong, D.-Q. Liang, J. Wang, K. Wu, Y. Xia, X. Zhao, Z.-Q. Zheng, M. Xing, X.-M. Liang, B.-Q. Huang, T. Lv, J.-Y. Wang, Y. Yin, H.-P. Yi, R.-Q. Li, M.-Z. Wu, A. Levi, X.-P. Zhang, J. J. Giovannoni, **J. Wang**, Y.-F. Li, Z.-J. Fei, Y. Xu. The draft genome of watermelon (*Citrullus lanatus*) and resequencing of 20 diverse accessions. *Nature Genetics*, **45,** 51-58, 2012.

15) J.-J. Qin, Y.-R. Li, Z.-M. Cai, S.-H. Li, J.-F. Zhu, F. Zhang, S.-S. Liang, W.-W. Zhang, Y.-L. Guan, D.-Q. Shen, Y.-Q. Peng, D.-Y. Zhang, Z.-Y. Jie, W.-X. Wu, Y.-W. Qin, W.-B. Xue, J.-H. Li, L.-C. Han, D.-H. Lu, P.-X. Wu, Y.-L. Dai, X.-J. Sun, Z.-S. Li, A.-F. Tang, S.-L. Zhong, X.-P. Li, W.-C. Chen, R. Xu, M.-B. Wang, Q. Feng, M.-H. Gong, J. Yu, Y.-Y. Zhang, M. Zhang, T. Hansen, G. Sanchez, J. Raes, G. Falony, S. Okuda, M. Almeida, E. LeChatelier, P. Renault, N. Pons, J.-M. Batto, Z.-X. Zhang, H. Chen, R.-F. Yang, W.-M. Zheng, S.-G. Li, H.-M. Yang, J. Wang, S. D. Ehrlich, R. Nielsen, O. Pedersen, K. Kristiansen, **J. Wang**. A metagenome-wide association study of gut microbiota in type 2 diabetes. *Nature*, **490,** 55-60, 2012.

16) G.-F. Zhang, X.-D. Fang, X.-M. Guo, L. Li, R.-B. Luo, F. Xu,P.-C. Yang, L.-L. Zhang, X.-T. Wang, H.-G. Qi,Z.-Q. Xiong, H.-Y. Que, Y.-L. Xie, P. W. H. Holland, J. Paps, Y.-B. Zhu, F.-C. Wu, Y.-X. Chen, J.-F. Wang, C.-F. Peng, J. Meng, L. Yang, J. Liu, B. Wen, N. Zhang, Z.-Y. Huang, Q.-H. Zhu, Y. Feng, A. Mount, D. Hedgecock, Z. Xu, Y.-J. Liu,T. D. Lošo, Y.-S. Du, X.-Q. Sun, S.-D. Zhang, B.-H. Liu, P.-Z. Cheng, X.-T. Jiang, J. Li, D.-D. Fan,W. Wang, W.-J. Fu, T. Wang, B. Wang, J.-B. Zhang, Z.-Y. Peng,Y.-X. Li, N. Li, J.-P. Wang, M.-S. Chen, Y. He, F.-J. Tan, X.-R.

Song, Q.-M. Zheng, R.-L. Huang, H.-L. Yang, X.-D. Du, L. Chen, M. Yang, P. M. Gaffney, S. Wang, L.-H. Luo, Z.-C. She, Y. Ming, W. Huang, S. Zhang, B.-Y. Huang, Y. Zhang, T. Qu, P.-X. Ni, G.-Y. Miao,J.-Y. Wang, Q. Wang, C. E. W. Steinberg, H.-Y. Wang, N. Li, L.-M. Qian, G.-J. Zhang, Y.-R. Li, H.-M. Yang, X. Liu, J. Wang, Y. Yin, **J. Wang**.The oyster genome reveals stress adaptation and complexity of shell formation. *Nature*, **490,** 49-54, 2012.

17) S.-Q. Zhang, T. Jiang, M. Li, X. Zhang, Y.-Q. Ren, S.-C. Wei, L.-D. Sun, H. Cheng, Y. Li, X.-Y. Yin, Z.-M. Hu, Z.-Y. Wang, Y. Liu, B.-R. Guo, H.-Y. Tang, X.-F. Tang, Y.-T. Ding, J.-B. Wang, P. Li, B. –Y. Wu, W. Wang, X.-F. Yuan, J.-S. Hou, W.-W. Ha, W.-J. Wang, Y.-J. Zhai, J. Wang, F.-F. Qian, F.-S. Zhou, G. Chen, X.-B. Zuo, X.-D. Zheng, Y.-J. Sheng, J.-P. Gao, B. Liang, P. Li, J. Zhu, F.-L. Xiao, P.-G. Wang, Y. Cui, H. Li, S.-X. Liu, M. Gao, X. Fan, S.-K. Shen, M. Zeng, G.-Q. Sun,Y. Xu, J.-Chu Hu, T.-T. He, Y.-R. Li, H.-M. Yang, J. Wang, Z.-Y. Yu, H.-F. Zhang, X. Hu, K. Yang, J. Wang, S.-X. Zhao, Y.-W. Zhou, J.-J. Liu, W.-D. Du, L. Zhang, K. Xia, S. Yang, **J. Wang** , X.-J. Zhang. Exome sequencing identifies *MVK* mutations in disseminated superficial actinic porokeratosis. *Nature Genetics*, **44,** 1156-1160, 2012.

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D. Barber, W.-C. Chou, A. Aggarwal, K. Hao, W. Zhou, C.-S. Zhang, J. Hardwick, C. Buser, J.-C. Xu, Z.-Y. Kan, H.-Y. Dai, M. Mao, C. Reinhard, **J. Wang**, J.-M. Luk. Genome-wide survey of recurrent HBV integration in hepatocellular carcinoma. *Nature Genetics*, **44,** 765-769, 2012.

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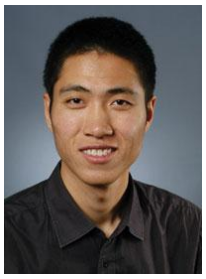

简介：王俊研究员于 1997 年毕业于北京大学，同年就读于同校，2002 年获博士学位。博士生导师，国家杰出青年基金获得者，973 首席科学家，现任深圳华大基因研究院院长，丹麦哥本哈根大学、奥胡斯大学教授，澳门科技大学、香港中文大学、中山大学客座教授。

自 1999 年参与人类基因组计划以来，王俊研究员以其数理统计学、计算机科学和生物学等交叉学科的知识积累，在肠道菌群与复杂疾病的关系、人类基因组学研究、单细胞肿瘤基因组研究、生物信息学工具开发等领域开展了大量开拓性的工作，产生了一批具有重大国际影响力的原创性研究成果。截止 2013 年 6 月发表 SCI 学术论文 213 篇，其中一作或通讯作者 113 篇，SCI 总引高达 27151 次；在国际顶尖杂志 Nature 及其子刊、Science、Cell 及 the New England Journal of Medicine 上共发表论文 85 篇，其中一作或通讯作者 54 篇，总引 21593，单篇最高总引 1505 次。主要科技成就中有九项科研成果入选中科院主办两院院士评选的“世界十大科技进展”和“中国十大科技进展”；六项入选由科技日报主持评选的“国际十大科技新闻”和“国内十大国际新闻”；三项入选由科技部和中国科协组织评选

的“中国基础科学研究十大新闻”，相关论文多次被 Nature China 评为亮点文章。他的研究得到了国家科技部、国家自然基金委、广东省及深圳市政府的大力资助。基于在基因组学和生物信息学领域的卓越贡献，王俊研究员获得了 20 余项奖励，诸如：2013 年荣获[周光召基金会：周光召科技奖、凤凰卫视：影响世界华人大奖、中国科协：科学中国人 2012 年度人物]，2012 年荣获[《自然》杂志：2012 全球科学界年度十大人物], 2011 年荣获[中国青年科技奖、广东省“五四”青年奖章]，2010 年荣获[全国劳动模范]，2008 年荣获[国务院特殊津贴、广东省“五一”劳动奖章、中国十大科技进展],2006 年荣获[新世纪百千万人才工程国家级人选、丹麦皇家基金会奖]，2003 年荣获[中国科学院杰出科技成就奖，中央国家机关优秀青年]，2002 年[香港求是科技基金求是杰出科技成就奖、中国科学院重大创新贡献奖]等。

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研究論文 ：

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