CURRICULUM VITAE

Hong-Bin Zhang (H.-B. Zhang)

Professor of Plant Genomics and Molecular Genetics

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MAJOR ACHIVEMENTS AND CONTRIBUTIONS TO SCIENCE AND TECHNOLOGY

- Discovered and established the one dimensional "Jigsaw Puzzle" DNA structure theory to explain how DNA makes the diversity, abundance and complexity of living organisms. This discovery is far beyond the DNA double helix theory, providing a novel explanation and a comprehensive molecular basis of the abundance, diversity and complexity of living organisms, and revolutionizing the concepts and strategies currently used in biological research, breeding and medicine.
- Discovered and established a novel mechanism of genome evolution on the basis of our "Jigsaw Puzzle" DNA structure theory. This discovery is expected to [1] significantly extend the existing genome/species evolution theories, [2] provide a molecular basis of genome and species evolution, and [3] revolutionize the concepts and strategies currently used in biological research, breeding and medicine.
- Deciphered the genome origin and evolution of the wheat (*Triticum*) and cotton (*Gossypium*) genera, thus providing the molecular basis for comprehensive understanding of plant genomes in structure, organization, function and evolution.
- Helped pioneer the theory and technology of megabase-size recombinant DNA, including megabase-size DNA preparation, manipulation and cloning, and bacterial artcificial chromosme (BAC) and transformation-competent binary BAC (BIBAC) construction, manipulcation and utilization, developed > 200 large-insert BAC and BIBAC libraries for different species, and founded the Texas A&M University GENE*finder* Genomic Resources Center. These BAC and BIBAC library resources have been major resources and foundation of modern genomics and genetics research worldwide.
- Helped pioneer the theory and technology of whole-genome physical mapping with BACs and BIBACs, and developed whole-genome, BAC/BIBAC-based physical maps of *Arabidopsis*, indica rice, japonica rice, soybean, chicken, *Penicillium chrysogenum*, *Ustilago maydis*, *Phytophthora sojae*, red algae, turkey, chickpea, and cotton. These physical maps have provided platforms and "freeways" essential for modern genomics and genetics research, including genome sequencing.
- Helped pioneer applied functional genomics to translate theoretical functional genomics into final biological performance to explain observed biological processes and traits. Therefore, this kind of research will not only allow us to comprehensively understand the processes and molecular basis of trait or phenotype development, but also provide us a molecular basis to design new approaches to revolutionize modern plant and animal breeding, and human medicine. Identified >2,100 genes involved in plant heterosis in maize and >2,000 genes contributing to high fiber yield and quality of cotton.

EDUCATION

- **Ph.D.**, Genetics - Plant Molecular Genetics, University of California, Davis, California. 1990.
- **Study for Ph.D.** in Plant Biochemistry and Physiology, Utah State University, Logan, Utah. 10/1985 - 09/1986. Transferred to UC Davis, 10/1986.
- **M. S.,** Cytogenetics, Chinese Academy of Agricultural Sciences, Beijing, China. 1984.
- **B. S.,** Plant Genetics and Breeding, Agricultural University of Hebei, Hebei, China. 1982.

PROFESSIONAL EMPLOYMENT

- **Professor**, Plant Genomics and Molecular Genetics, Texas A&M University, College Station, 2006 - present.
- **Director** for Laboratory of Plant Genomics and Molecular Genetics, Texas A&M University, College Station, 1996 - present.
- **Director**, The GENE*finder* Genomic Resources Center, Texas A&M University, College Station, 1996 - present.
- **Associate Professor**, Plant Genomics and Molecular Genetics, Texas A&M University, College Station, 2002 - 2005.
- **Assistant Professor**, Plant Genomics and Molecular Genetics, Texas A&M University, College Station, 1996 - 2001.
- **Assistant Research Scientist**, Plant Genomics and Molecular Genetics, Texas A&M University, College Station, Texas. 1994-1996
- **Postdoctoral Associate**, Plant Molecular Genetics, Texas A&M University, College Station, Texas. 1992-1994.
- **Postdoctoral Associate**, Plant Molecular Genetics, University of California, Davis, California. 1991-1992.

PROFESSIONAL ACTIVITIES

- Faculty of Genetics (GENE), Texas A&M University, 12/1997 - present.
- Faculty of Molecular and Environmental Plant Sciences (MEPS), Texas A&M University, 12/1996 - present.
- Faculty of Professional Program in Biotechnology, Texas A&M University, 1999 - present.
- Faculty of Plant Breeding, Texas A&M University, 1997 - present.
- Member of American Association for the Advancement of Science. 1989 - present.
- Service in a variety of committees at Texas A&M University, including those of curriculum, faculty search, student recruiting, tenure/promotion, and graduate fairs.

PROFESSIONAL SERVICES, AND NATIONAL AND INTERNATIONAL RECOGNITION

1. Professional services in the scientific community:

A. National and international journals:

- Editor-in-Chief, *International Journal of Plant Genomics*, 2006 – present.
- Editor-in-Chief, *Journal of Agricultural Sciences*, 1989-1993.
- Associate Editor, *Plant Genomes and Systems Biology*, 2006 –present.
- Associate Editor, *Journal of Biomedicine and Biotechnology*, 1999 – 2006.
- Associate Editor, *Genome Letters*, 2000 – 2005.
- Ad hoc reviewer of manuscripts for 20 journals: *Proc. Acad. Natl. Sci. USA, The Plant Cell, Genetics, Nature Reviews Genetics, Plant Physiology, Bioinformatics, Genome, Genomics, BMC*

Genomics, Plant J., Theor. Appl. Genet., Plant Mol. Biol., Mol. Breed., Briefings in Functional Genomics & Proteomics, Plant Science, BMC Bioinformatics, Plant Cell Reports, Functional and Integrative Genomics, Molecular Plant-Microbe Interactions, and *J. Heredity.*

B. Research and educational institutions:

- Adjunct Professor and first class-invited oversea scientist in functional genomics of ocean living organisms, Institute of Oceanology, Chinese Academy of Sciences, 2006 - present.
- Adjunct Professor, Jilin Agricultural University, 2007 - present.
- Adjunct professor, Chinese Academy of Agricultural Sciences, 1999 - present.
- Adjunct professor, Agricultural University of Hebei, 2002 - present.
- Adjunct Professor, Center for Gene Research, Chinese Academy of Sciences, 1994-1999.
- Invited oversea scientist in plant functional genomics, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, 2007 – present.
- First Class-invited Member of the Scientific Advisory Board, Chinese Academy of Sciences, 1999-present.
- First Class-invited Member of the Science and Technology Advisory Board, The City of Beijing, 2000 – present.

C. National and international research funding organizations:

- Ad hoc reviewer of several programs of the USDA/NRI and National Science Foundation
- Ad hoc reviewer of Swiss Federal Institute of Technology Zurich,
- Ad hoc reviewer of Netherlands Foundation for the Advancement of Tropical Research (WOTRO)
- Ad hoc reviewer of German Federal Ministry of Education and Research (BMBF)
- Ad hoc reviewer of National Natural Science Foundation of China (NSFC), and
- Ad hoc reviewer of The U.S. Consortium for Plant Technology Research

D. National and international professional conferences:

- Co-organizer and co-chair, Large-insert DNA Library and Their Applications Workshop of the International Annual Plant & Animal Genome Conference. 1998 – present.
- The Organization Committee of the 10th International Triticeae Genome Mapping Conference. Newark, Delaware, USA. June 14-16, 2000.

E. National and international public workshops:

- Organizer and instructor, the International Biotechnology Workshop – BAC Workshop II: BAC Cloning and Manipulation. Texas A&M University, College Station, Texas. June 8-17, 2000.
- Invited instructor, the BAC Biotechnology Workshop, Chinese Academy of Agricultural Sciences, Beijing, China. July 10-20, 2000.
- Invited instructor, the Workshop on BAC Technology. CSIRO, Queensland, Australia, June 2 –11, 1999.
- Organizer and instructor, the international BAC Cloning and Library Construction Program. Texas A&M University. 10/1997.
- Co-organizer and instructor, the international BAC Workshop. Texas A&M University. June 3 - 10, 1995.

2. Invited lectures and seminars presented in national or international institutions:

1. **"BAC to the Future".** China Agricultural University, Beijing, China. July 31, 2007.
2. **"Charting Your Course through a Physical Map".** China Agricultural University, Beijing, China. July 31, 2007.
3. **"BAC to the Future".** Institute of Crop Sciences, Chinese Academy of Agricultural Sciences, Beijing, China. July 30, 2007.

4. **"Charting Your Course through a Physical Map".** Institute of Crop Sciences, Chinese Academy of Agricultural Sciences, Beijing, China. July 30, 2007.
5. **"BAC to the Future".** Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China. July 29, 2007.
6. **"Charting Your Course through a Physical Map".** Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing, China. July 29, 2007.
7. **"BAC to the Future".** Chinese Academy of Yellow Sea Fisheries, Qingdao, China. July 26, 2007.
8. **"BAC to the Future".** Institute of Oneanology, Chinese Academy of Sciences, Qingdao, China. July 24, 2007.
9. **"Beyond the Double Helix Model: A New DNA Structure Model Explaining the Abundance, Diversity and Complexity of Living Organisms".** Jilin Agricultural University, Changchun, China. July 16, 2007.
10. **"Charting Your Course through a Physical Map".** Jilin Agricultural University, Changchun, China. July 15, 2007.
11. **"BAC to the Future".** Jilin Agricultural University, Changchun, China. July 15, 2007.
12. "**Beyond the double helix model: DNA structure revealed by comprehensive analysis of the *Arabidopsis thaliana* genome**". Genetics Seminar Series, Texas A&M University, Texas, USA. September 28, 2006.
13. "**Beyond the double helix model: DNA structure revealed by comprehensive analysis of the *Arabidopsis thaliana* genome**". Northwest A&F University, Yangling, China. August 7, 2006.
14. "**Charting Your Course through a Physical Map**". Northwest A&F University, Yangling, China. August 7, 2006.
15. "**Beyond the double helix model: DNA structure revealed by comprehensive analysis of the *Arabidopsis thaliana* genome**". Institute of Oneanology, Chinese Academy of Sciences, Qingdao, China. August 5, 2006.
16. "**Charting Your Course through a Physical Map**". Institute of Oneanology, Chinese Academy of Sciences, Qingdao, China. August 3, 2006.
17. "**BAC to the Future**". Beijing Genomics Institute, Chinese Academy of Sciences, Beijing, China. July 31, 2005.
18. "**Charting Your Course through a Physical Map**". The Red River Valley Agricultural Research Center of USDA, Fargo, ND. April 25, 2005.
19. "**Charting Your Course through a Physical Map**". University of Tennessee, Knoxville, TN. October 18, 2004.
20. "**Whole-genome Physical Mapping with Large-insert Bacterial Clones**". University of Connecticut, Storrs, CT. November 22, 2002.
21. "**Genomics Research: Accomplishments, Current Status and Perspectives**". Agricultural University of Hebei, October 18, 2002.
22. "**Integrative Physical Mapping with Large-insert Bacterial Clones**". Agricultural University of Nanjing. June 8, 2002
23. "**BAC to the Future: BAC Technologies, Library Construction and Applications**". Centro de Investigacion Cientifica de Yucatan, Mexico. October 24, 2001.
24. "**Whole-genome Physical Mapping with BACs: Principles, Technologies, Strategies, Map Construction and Applications**". Centro de Investigacion Cientifica de Yucatan, Mexico. October 25, 2001.
25. "**BAC to the Future**". Seminar Series of Animal Sciences, Texas A&M University, College Station, Texas. February 5, 2001.
26. "**Development and Applications of a Genome-wide BAC-based Physical Map of the Rice Genome for Enhanced Rice Genomics Research**". RiceTec, Inc., Texas. August 5, 2000.
27. "**Genome-wide Physical Mapping with Large-insert Bacterial Clones: The BAC/BIBAC Physical Maps of the Rice and Arabidopsis Genomes**". Chinese Academy of Agricultural Sciences, Beijing, China. July 19, 2000.

28. "**Megabase Recombinant DNA Technologies and Their Applications in Genomics Research**". Chinese Academy of Agricultural Sciences, Beijing, China. July 14, 2000.
29. "**Genome-wide Physical Mapping with Large-insert Bacterial Clones: The BAC/BIBAC Physical Maps of the Rice and Arabidopsis Genomes**". University of British Columbia, Vancouver, Canada. February 8, 2000.
30. "**BAC to the Future**". TerraGen Discovery, Inc. Vancouver, Canada. February 7, 2000.
31. "**Genome-wide Physical Mapping with Large-insert Bacterial Clones: The BAC/BIBAC Physical Maps of the Rice and Arabidopsis Genomes**. University of California, Davis, CA. January 20-22, 2000.
32. "**Megabase Recombinant DNA Technologies and Their Applications in Modern Genomics Research**". Huazhong Agricultural University. China. September 21, 1999.
33. "**Integrative Physical Mapping of Genomes with Ordered BAC Libraries: The Genome-wide Sequence-ready Physical Maps of the Rice and Arabidopsis Genomes**". Huazhong Agricultural University. China. September 22, 1999.
34. "**Megabase Recombinant DNA Technologies and Their Applications in Modern Genomics Research**". Yunnan Institute of Botany, Chinese Academy of Sciences. September 27, 1999.
35. "**Megabase Recombinant DNA Technologies and Their Applications in Modern Genomics Research**". Southern Cross University, Australia. May 22, 1999.
36. "**Integrative Physical Mapping of Genomes with Ordered BAC Libraries: the Genome-wide Sequence-ready Physical Maps of the Rice and Arabidopsis Genomes**". Southern Cross University, Australia. May 22, 1999.
37. "**Megabase Recombinant DNA Technologies and Their Applications in Modern Genomics Research**", CSIRO Tropical Agriculture and University of Queensland, Australia. June 5, 1999.
38. "**BAC to the Future**". CSIRO Tropical Agriculture and University of Queensland, Australia. June 6, 1999.
39. "**Integrative Physical Mapping of Genomes with Ordered BAC Libraries: the Genome-wide Sequence-ready Physical Maps of the Rice and Arabidopsis Genomes**". CSIRO Tropical Agriculture and University of Queensland, Australia. June 7, 1999.
40. "**BAC to the Future**". Leslie Research institute, Australia. May 28, 1999.
41. "**Integrative Physical Mapping of Genomes with Ordered BAC Libraries: The Genome-wide Sequence-ready Physical Maps of the Rice and Arabidopsis Genomes**". University of Sydney, Australia, May 30, 1999.
42. "**Megabase Recombinant DNA Technologies and Their Applications in Modern Genomics Research**". University of Melborne, Australia. June 1, 1999.
43. "**Integrative Physical Mapping of Genomes with Ordered BAC Libraries: the Genome-wide Sequence-ready Physical Maps of the Rice and Arabidopsis Genomes**". Stanford University, CA. March 21 – 23, 1999.
44. "**Megabase Recombinant DNA Technologies and Their Applications in Modern Genomics Research**". Texas Tech University, Texas. October 7, 1998.
45. "**Integrative Physical Mapping of Complex Genomes with Ordered BAC Libraries: The Genome-wide Sequence-ready Physical Map of the Rice Genome**". Texas Tech University, Texas. October 8, 1998.
46. "**Integrative Physical Mapping of Genomes with Ordered BAC Libraries: The Genome-wide Sequence-ready Physical Maps of the Rice and Arabidopsis Genomes**". Crop Biotechnology Center, Chinese Academy of Agricultural Sciences. July 20, 1999.
47. "**Megabase Recombinant DNA Technologies and Their Applications in Modern Genomics Research**". Institute for Crop Germplasm, Chinese Academy of Agricultural Sciences. July 21, 1999.
48. "**Integrative Physical Mapping of Complex Genomes with Ordered BAC Libraries: The Genome-wide Sequence-ready Physical Map of the Rice Genome**". Dekalb Genetics, Inc., October 27-28, 1998.

49. "**Genome-wide Physical Mapping of Large, Complex Genomes with BACs**". The National Center for Gene Research, Chinese Academy of Sciences. July 22, 1997.
50. **"Genome-wide Physical Mapping of Large, Complex Genomes with BACs by Restriction Fingerprint Analysis**". Peking University, China. July 26, 1997.
51. "**BAC to the Future**". Cold Spring Harbor Laboratories, NY. October 21, 1996.

3. Invited presentations in national or international conferences:

1. **"Beyond the double helix model: DNA structure revealed by comprehensive analysis of the *Arabidopsis thaliana* genome**". The CAS Conferences on Marine Science and Technology, Qingdao, China, July 28 – August 1, 2006.
2. "**Whole Genome Physical Mapping with BACs by Fingerprint Analysis: Lessons and Tips**". The International Plant & Animal Genome Conference XIII. San Diego, CA, January 15-19, 2005.
3. "**BAC Maps and Their Applications for Chicken Genomics Research**". The Chicken Genome: New Tools and Concepts. Stowers Institute for the Medical Research, Kansas City, MO, April 29 – May 2, 2004.
4. "**A BAC-based Physical Map of the Chicken Genome**". The International Chicken Genome Conference". The Sanger Centre, Cambridge, UK. March 9 – 11, 2003.
5. "**Toward development of a whole-genome, BAC/BIBAC-based integrated physical/genetic map of the cotton genome using the Upland cotton genetic standard TM-1: BAC fingerprinting and physical map contig construction**". The 3rd International Cotton Genome Conference. Nanjing, China. June 2 – 7, 2002.
6. "**Development of a BAC-based Physical Map of the Chicken Genome for High-throughput Gene Mapping and Cloning**". Poultry Workshop, International Conference Plant & Animal Genome IX. January 13-17, 2001. San Diego, CA.
7. "**Development and Applications of Genome-wide BAC/BIBAC-based Physical Maps for Accelerated Research of Agricultural Genomes**". Large-insert DNA Libraries and Their Applications Workshop, International Conference Plant & Animal Genome IX. January 13-17, 2001. San Diego, CA.
8. "**Development of a BAC/BIBAC-based Physical Map of the Soybean Genome for Accelerated Genome Research**". Legume Workshop, International Conference Plant & Animal Genome IX. January 13-17, 2001. San Diego, CA.
9. "**Genome-wide Physical Mapping with BACs**". Annual Conference of Plant Genomics in China I, Dalian, China. July 24 – 27, 2000.
10. "**Biotechnological Revolution is Coming**". International Hi-Tech Conference. Beijing, China. May 5 – 10, 2000.
11. "**The genome-wide Physical Maps of the Rice and Arabidopsis Genomes: Reliability and Accessibility**". Large-insert DNA Libraries and Their Applications Workshop, International Conference Plant & Animal Genome VIII. January 9 –12, 2000. San Diego, CA.
12. "**Strategy for Physical Mapping with DNA Fingerprinting Technique**". International Triticeae Mapping Initiative 1999 Public Workshop, Viterbo, Italy. August 24 –28, 1999.
13. "**BAC Technology – Current Status and Development**". Public Workshop on Development and Applications of BAC Libraries, Caloundra, Australia. May 26, 1999.
14. "**A Large-scale Plant Transformation- and Genome Sequence-ready Physical Map of the *Arabidopsis thaliana* Genome**". Arabidopsis Workshop, International Conference Plant & Animal Genome VII. January 17 - 21, 1999. San Diego, CA
15. "**Integrative Physical Mapping of Genomes with Large-insert Bacterial Clones: the Sequence-ready Physical Map of the Rice Genome**". Large-insert DNA Libraries and Their Applications Workshop, International Conference Plant & Animal Genome VII. January 17 - 21, 1999. San Diego, CA

16. "**Toward development of an Integrated Physical Map of the Rice Genome with Bacterial Artificial Chromosomes**". The General Meeting of the International Program on Rice Biotechnology, September 15-19, 1997, Malacca, Malaysia.
17. "**Construction and Characterization of Two Rice Bacterial Artificial Chromosome Libraries from the Parents of a Permanent Recombinant Inbred Mapping Population**". Rice Workshop, International Conference Plant Genome III. January 15 – 19, 1995. San Diego, CA.

4. **National and International visiting scientists hosted and trained:**
   - Hosted 50 visiting scientists from 14 countries of the world: 25 from USA, 9 from China, 2 from each of Australia, Korea, Italy and Mexico, and 1 from each of Belgium, Canada, Israel, Japan, The Netherlands, Spain, Thailand and UK. 10/1996 - present.

Visiting scientists trained in Zhang's lab from 1996 – present.

Scientists	purposes	Visiting period	Organization/Location	Country
Sudam Pathiranna	Construction of Arabidopsis BAC library	09-10/96	Univ. of New Jersey, Rutgers, NJ	USA
Boris Vinatzer	Construction of apple BAC library	09-01/96	Univ. of Bologna, Bologna	Italy
Carol M. Hamilton	Construction of tomato and *L. pennellii* BAC libraries	02-03/97	Cornell Univ., Ithaca, NY	USA
Jianmin Dong	Physical mapping	05/97	Texas A&M Univ., College Station, TX	USA
M.N.Islam-Faridi	Construction of pine BAC library	03-05/97	Texas A&M Univ., College Station, TX	USA
Jingzhao Wang	Rice physical mapping	2/97-2/98	Chinese Academy of	China
Kaiman Peng	Construction of rice BAC library,	04-10/97	Huazhong Agric. Univ., Wuhan	China
Mary Palmer	Construction of frog BAC library	05/97	Research Genetics, Inc., Huntsville, AL	USA
Maria Ragland	Construction of tomato BAC library	05-06/97	Research Genetics, Inc., Huntsville, AL	USA
Carol Ryder	Construction of Brassica BAC library	05-09/97	Horticulture Research Int., Wellesbourne	UK
Odile Moullet	Construction of wheat D genome BAC libraries	07-11/97	Plant Industry, CSIRO, Canberra	Australia

Richard P.M.A. Crooijmans	Chicken BAC library	07-11/97	Wageningen Univ.	Netherlands
Khalid Meksem	Construct soybean BAC libraries	08-12/97	Southern Illinois Univ., Carbondale	USA
Chunji Liu	Construction of lablab BAC library	01-02/98	Plant Industry, CSIRO, Queensland	Australia
Yongzhong Wu	Construction of rapeseed BAC libraries	02-05/98	Univ. of Guelph, Guelph, Ontario	Canada
Rajinder Chauhan	Construction of rice BAC library	05-08/98	Univ. of Wisconsin Madison, WI	USA
Khalid Meksem	Physical mapping	10/98	Southern Illinois Univ., Carbondale	USA
Michael E. Hume	Megabase DNA preparation and analysis	11/98	USDA-ARS College Station, TX	USA
Andrew James	Construction of banana BAC library	07-10/98	Centro de Investication Cientifica de Yucatan Merida	Mexico
Boris A. Vintzer	Positional cloning of apple disease resistance gene	08-12/98	Univ. of Bologna, Bologna	Italy
Jiong Zhang	Construction of poplar BIBAC library	02-03/99	Univ. of Gent	Belgium
Zhanao Deng	Chromosome walking toward the cirus CVT resistance gene	02-05/99	Univ. of Florida, FL	USA
John S. Brabson	Pine genome organization	06-09/99	Mills College, CA	USA
Rosalee McShane	Fire ant and horse BAC libraries	06-08/99	Texas A&M Univ.	USA
Seishi Ikeda	BAC cloning	10/99	Japan Forage Seed Association	Japan
Jianmin Dong	BAC cloning	10-11/99	USDA-ARS, College Station, TX	USA
Hans van Leeuwen	Melon BAC Library	03-05/00	Institut Biologia Molecular de Barcelona	Spain

Jan Dvorak	Wheat BAC library	08/00	Univ. of California Davis, CA	USA
Wanlong Li	Wheat BAC library	08/00	Kansas State Univ.	USA
Rulin Ma	Rat BAC Library	09-12/00	Univ. of Illinois Urbana-Champaign	USA
Mingchen Lou	Wheat physical mapping	03/01	Univ. of California Davis, CA	USA
Yaning Li	Rice physical mapping and comparative genomics	09/00-12/03	Agric. Univ. of Hebei,	China
Judith Lichtenzveig	Chickpea genome mapping	07/01-10/01	Hebrew Univ. of Jerusalem	Israel
Xiaohua Fang	Sugar beet BAC library	04/01-10/01	Chinese Academy of Sciences	China
Aimin Zhang	Genomics	12/01 – 02/02	Chinese Academy of Sciences	China
Young-Woo Nam	Cucumber BAC library	01/02	Sogang Univ.	Korea
Kevin Vergin	Bermuda BAC library	03/02	Oregon State Univ.	USA
Young-Woo Nam	Cucumber BAC Library	07/02	Sogang Univ.	Korea
David L. Kooyman	Camel BAC library	06/03	Brigham Young U.	USA
Mikel R. Stevens	Quinoa BAC library	06/03	Brigham Young U.	USA
E. Ortiz-Vázquez	Banana BIBAC library	05/03 – 08/03	Centro de Investigación Científica de Yucatán	Mexico
David L. Kooyman	Llama BAC library	06/04	Brigham Young U.	USA
Suwit Wuthisu-Thimethavee	Shrimp BAC Library	02-06/04	Kasetsart University	Thailands
Jiuhuang Feng	Sunflower BIBAC Libraries	06 - 08/04	USDA, Fargo, ND	USA
Yuxiao Huang	Marker technology	05 -12/05	Qinzhou Institute of Agric. Sciences	China
Padma Nimmakayala	Sweatpotato BAC	11 – 12/05	West Virginia State	USA

	Libraries		University	
Xiaojun Zhang	Shrimp BAC library	06/06 – 04/07	Chinese Academy of Sciences	China
Yang Zhang	Shrimp BAC library	06/06 – present	Chinese Academy of Sciences	China
Meiping Zhang	Soybean and rice Genomics	02/07 – present	Agric. Univ. Jilin	China

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AWARDS AND SCHOLARSHIPS

- Jastro-Shields Research Awards, 1988.
- Research Assistantship, University of California, Davis, 1988-1990.
- Tuition Fee Fellowship, University of California, Davis, 1988-1990.

TEACHING ACTIVITIES

1. Courses:

- Analysis of Complex Genomes (AGRO, GENE and MEPS-655), graduate course, 3 credit hours, Texas A&M University, College Station, Texas. 1998 – present (overall mean of student evaluation: 4.82 of 5.00, with a range from 4.40 to 4.98)
- Directed Studies in Genomics for graduate students (AGRO, GENE and MEPS-685), 1 – 3 credit hours, Texas A&M University, College Station, Texas. 1999 – present.
- Directed Studies in Genomics for undergraduate students (GENE-485), 1 – 3 credit hours, Texas A&M University, College Station, Texas. 2000 – present.
- Graduate Research (AGRO, GENE and MEPS-677 and 691), 1 – 9 credit hours, Texas A&M University, College Station, 1997 – present (mean teaching evaluation: 4.97 of 5.00).

2. Graduate students advised:	**Degrees**	**Status**	**Current positions**
Boris Vinatzer	Ph.D.	graduated in 2000	Assistant professor
Yueh-Long Chang	Ph.D.	graduated in 2001	Associate professor
Huaming Chen	M.S.	graduated in 2000	Research Associate
Limei He	M.S.	graduated in 2000	Research manager
Teofila S. Santos	Ph.D.	graduated in 2002	Assistant professor
Kejiao Ding	M.S.	graduated in 2002	Unknown
Laura Wakefield	M.S.	graduated in 2002	Ph.D. student
Xiaohua Fang	Ph.D.	graduated in 2003	Associate professor
Yaning Li	Ph.D.	graduated in 2004	Associate professor
Taesik Uhm	Ph.D.	graduated in 2004	Research scientist
Ying Rong	M.S.	graduated in 2004	Ph.D. student
Greg Hess	M.S.	graduated in 2005	Ph.D. student
Que Ngo	Ph.D.	09/02 – present	
Mark Goebel	Ph.D.	05/05 – present	
Hyun Jung Park	M.S.	01/06 – present	
Yen-Hsuan Wu	M.S.	08/06 – present	
Yun-Hua Liu	M.S.	08/06 – present	

3. Postdoctoral associates advised:	**Period**	**Current positions**
Xiaojun Zhang	05/2007 - present	

Mi-Kyung Lee	05/2000 – 09/2005	Assistant research scientist
Zhanyou Xu	01/2001 – 01/2003	Assistant research scientist
Chengwei Ren	09/2000 – 05/4004	Research geneticist
Shuku Sun	06/2001 – 06/2003	Research scientist
Bo Yen	01/2001 – 08/2002	Professor and director
Liangtao Zhang (co-advisor)	09/2000 – 12/2002	Research scientist
Yueh-Long Chang	06/2001 – 01/2002	Associate professor
Padmavathi Nimmakayala	06/1999 – 05/2001	Assistant professor
Paul P. Ling	12/1999 – 08/2000	Research geneticist
Chengcang Wu	05/1999 – 08/2002	Senior scientist

4. Assistant Research Scientist supervised:

Mi-Kyung Lee	09/2005 - present	Assistant research scientist
Chengcang Wu	09/2002 – 06/2004	Senior scientist
Zhanyou Xu	01/2003 – 07/2004	Assistant research scientist

5. **Undergraduate and unassigned graduate students supervised and trained:**
Jessica Dodge, Jennifer Centrato, Kelli Black, Bettye Cox, Cathy Dole, Lucas Garcia, Xiomara Henriquez, George Hodnett, Elizabeth Huff, Dustin Jordon, Jeong-Soon Kim, Steven Koether, Rika Lubis, Aaron Malet, Racheal Springman, Carman Williams, Jo Unsun, Qin Ye, David Finlkestein and Michel S. Zwick.

6. **Other activities related to teaching**
- Ms. Adriana Robbins (Spring 2006) – served as a mentor for University Graduate Teaching Advisor
- Ms. Yichun Yang (Spring 2007) – served as a mentor for University Graduate Teaching Advisor

7. Public workshops organized and/or instructed:
- The International Biotechnology Workshop – BAC Workshop II: BAC Cloning and Manipulation. Texas A&M University, College Station, Texas. June 8-17, 2000.
- The BAC Biotechnology Workshop, Chinese Academy of Agricultural Sciences, Beijing, China. July 10-20, 2000.
- The Workshop on BAC Technology. CSIRO, Queensland, Australia, June 2 –11, 1999.
- The international BAC Cloning and Library Construction Program. Texas A&M University. 10/1997.
- The international biotechnology workshop: BAC Workshop. Texas A&M University. June 3 -10, 1995.
- Crop Genome Analysis, Texas A&M University, College Station, Texas. 1995.

RESEARCH GRANT SUPPORTS

- PI/co-PI of projects with a total fund of $16,906,694, of which >$6,350,000 are/were for Zhang lab

PATENTS, TECHNOLOGIES AND GENOMIC RESOURCES RELEASED

1. Invention Patents:
- Invention patent (co-inventor) (P00254US): Chromosome region conferring resistance to rice blast.

- Invention patent (co-inventor) (60/336549US): Citrus tristeza virus resistance genes and methods of use.

2. **Genomic Resources Released:**
   - 96 large-insert, arrayed BAC and BIBAC libraries (http://hbz7.tamu.edu).
   - Indica rice BAC-based physical map and database at http://hbz7.tamu.edu;
   - Arabidopsis BAC/BIBAC, integrated physical, genetic and sequence map and database at http://hbz7.tamu.edu;
   - Soybean BAC/BIBAC-based physical map and database at http://hbz7.tamu.edu;
   - Chicken BAC-based physical map and database at http://hbz7.tamu.edu
   - Japonica rice BIBAC-based physical map and database at http://pubs.nrc-cnrc.gc.ca/rp/rpsuppl/g07-006suppl.ppt; http://hbz7.tamu.edu
   - The robust physical map of *Penicillium chrysogenum* at http://nar.oupjournals.org/archive/index.dtl
   - A BAC physical map of the *Ustilago maydis* genome at http://pubs.nrc-cnrc.gc.ca/cgi-bin/rp/rp2_tocs_e?gen_gen2-05_48
   - A BAC physical map of *Phytophthora sojae* at http://phytophthora.vbi.vt.edu/webfpc/WebAGCoL/contig_bac/WebFPC/ and http://phytophthora.vbi.vt.edu/webfpc/WebAGCoL/contig_bac/Data.
   - A draft BIBAC physical map of cotton at http://cottondb.org/cdbpages/fpc.html.
   - >700 gene sequences and > 22,000 BAC end sequences deposited at GenBank.

3. **Technologies Developed and Released**
   - Preparation of megabase-size DNA, which have been widely used worldwide in preparation of megabase-size nuclear DNA from plants, animals, insects, fishes and microbes
   - Megabase-size recombinant DNA, including manipulation and cloning of large DNA fragment, and construction and manipulation of large-insert, arrayed bacterial artificial chromosome (BAC) and plant-transformation-competent binary BAC (BIBAC) libraries
   - Whole-genome physical mapping with BACs and/or BIBACs

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B. Books, Encyclopedia Section, or Book Chapters Written:

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C. Editor-reviewed Journal:

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D. Conference or Symposium Proceedings:

1. Zhang H-B, Lee M-K, Scheuring C, Rong Y, Goebel M, Wu Y-H, Zhang L, Stelly DM, Smith CW. 2007. Toward comprehensive understanding of the cotton genome in structure, organization, function and evolution. Proceedings of the World Cotton Research Conference-4, September 10 -14, Lubbock, Texas, USA.

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5. Wu C, Wang S, Zhang H-B. 2007. New structures of DNA molecules identified in the genomes of *Arabidopsis thaliana* and human. (in preparation)
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