BaoHui Zhang (张宝辉)--Curriculum Vitae

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Block 2, Level 3, Room 27
National Institute of Education
Nanyang Technology University
1 Nanyang Walk, Singapore 637616
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Education

2003 Ph.D., University of Michigan
Areas of specialty: Educational Technology and Science Education.
Dissertation title
Exploring middle school science students' computer-based modeling practices and their changes overtime
Dissertation committee: Prof. Joseph S. Krajcik (Chair); Prof. Ronald Marx; Prof. Elliot Soloway; Prof. Elizabeth Davis; and Prof. Brian Coppola (Cognate)
2002 M. S., Educational Technology, University of Michigan
1994 M. Ed. Chemistry Education, Beijing Normal University, Beijing, China
Academic Advisor: Professor Liu, Zhixin
1989 B. S. Chemistry, Harbin Normal University, Harbin, China
Academic Advisor: Professor Wang, Zuoshu

Research Grants

2008-2011, as a co-PI with Dr. LOOI Chee Kit (PI), Dr. NORRIS Cathy, Dr. SO Hyo-Jeong, and Dr. CHEN Wenli, *Leveraging Mobile Technology for Sustainable Seamless Learning in Singapore Schools*, (S$1,070,160, NRF2007IDM-IDM005-021), National Research Foundation (NRF), Singapore
2007-2008, As a PI, with Dr. JACOBSON Michael and Dr. KIM Beaumie, *Enhancing Inquiry-based Science Learning through Modeling and Visualization Technologies* (MVT), (S$199,792, LSL 16/06 ZBH), Learning Sciences Lab, National Institute of Education, Nanyang Technological University, Singapore
2006, As a co-PI with Dr. LOOI Chee Kit (PI) and other LSL colleagues, *Reduce, Reuse & Recycle (3Rs): A Challenge-Experiential Learning Approach for Primary Science Learning Using Mobile and Web-based Technologies* (S$5000), Funded by Singapore National Environmental Agency
2005-2006, As a PI, with Dr. WONG Lung Hsiang and JACOBSON Michael, *Inquiry and Computer-Based Modeling for Primary Science Learning* (S$49,769, LSL 3/05 ZBH), Learning Sciences Lab, National Institute of Education, Nanyang Technological University, Singapore
May 2005-May 2006, as the second investigator, with Dr. Gail Richmond (PI), Joyce Parker, John Merrill, Ron Patterson, Mark Urban-Lurain, Doug Estry, et al. *Teachers for a New Era--Reforming undergraduate science teacher preparation Project*, (MSU IRB# 05-195), A sub-project of the Michigan State University *Teachers for a New Era* project (Five million dollars over five years), Carnegie Cooperation at New York, USA
2002 Spencer mini-grant, Middle school science students' computer-based modeling

practices and their changes over time (Dissertation work) ($1200), Graduate Affairs Committee, School of Education, University of Michigan, USA

2002 CARAT/Rackham IT Fellowship award for fiscal year 2002-2003 (In-house facilities with one year stipends), University of Michigan, USA

2001 Rackham Graduate School Discretionary Grant, How do Chinese science teachers' conceptions of the nature of science compare their responses to constructivist teaching and learning theory and practice ($2,000 + $800), (U of M IRB approval # 6362), Rackham Graduate School + Center for Chinese Studies , University of Michigan

Teaching and Advising Experience

July 2005-Present Assistant Professor, LST AG, National Institute of Education, Nanyang Technology University, Singapore

1994-1998 Lecturer, assistant professor, in Chemistry Education, and student affair administrator, Beijing Normal University (BNU), Beijing, China (www.bnu.edu.cn)

1989-1991 High school chemistry teacher, Zhaolin High School in Shuangcheng City, Heilongjiang Province, NE China.

Courses currently teaching at NIE:

Fall 08, SG803: Educational Technologies for Inquiry-based Learning (PDCM, MEd)
809 Designing, Conducting, and Reporting Investigations (PhD)
Winter 08, QED562: Designing Effective Learning Environments
Fall 07, QED522: ICT for Engaged Learning
Winter 07, QED562: Designing Effective Learning Environments
Fall 06, QED522: ICT for Engaged Learning
Summer 06, NS800: (Master in Edu. Admin.): E-Learning in Education (In Chinese)
Winter 06, MID 834: Technologies as Mindtools (Master);
QED561: Technologies as Cognitive Tools
Fall 05, DED102 & QED522: ICT for Engaged Learning

Advising experience

June 16-Aug. 8, 2008 Host advisor of Jennifer Ann Quynn, exchange PhD student from the University of Washington under the NSF (EAPSI) program. Her US advisor is Dr. Min Li
Jan. 2008- Present Advisor of Peter Seow, PhD student at NIE
Aug. 2007-Jan. 2008 Overseas advisor of Xiuqin Lin, exchange PhD student from Beijing Normal University under a scholarship from the China Scholarship Council. Her BNU advisor is Prof. Ronghuai Huang

Courses and advisees at BNU:

1997, 1998 Chemistry teaching methodology
Lectured basic theories and organized hands-on sessions of methods of chemistry teaching for pre-service high school chemistry teachers.
Number of students: about 50 senior undergraduate students each year.

1997, 1998 Application of Technology to Chemistry Education
Designed and implemented theories and hands-on sessions of computer and other video and audio technology's application in chemistry education.
Number of students: about 15 senior undergraduate students each year.

1995-1998 Chemistry method course lab
Lectured and supervised hands-on sessions for junior undergraduate students who practiced how to teach chemistry lab activities.
Number of students: 15 each class; totally 30 junior undergraduates each year.

1996-1998 Field instructor for pre-service chemistry student teachers

Met student teachers regularly: read and approved their lesson plans; listened and gave feedback to their simulated teaching; sat in the student teachers' classes and gave them feedback afterwards; gave grade to their performance.
Number of student teachers: 7-9 each year (all in one school)

1997, 1998 Advisor of undergraduate theses [Beijing Normal University]
Met regularly with students (senior undergraduate students in Chemistry); helped design their theses projects; supervised students' thesis progress; read and gave feedback to students' writing.
Student names: Zhao, Jing; Ge, Wei

Other teaching experience
July 2007, (Singapore MOE) 3rd ICT Seminar for Cluster Superintendents and Principals
2005, 2006, 2007, NIE, practicum supervision

1997 Chinese Instructor at PIB (Princeton in Beijing)
(PIB was a joint two-month intensive summer program of Princeton University and Beijing Normal University, Beijing, China)
Lectured and supervised student listening, speaking and writing; led field trips; designed and supervised students' commencement performance.
Number of students: 7-11 each class; totally about 40 American college students.
1995 Hosted two call-in radios shows for middle and high school students who had questions about how to prepare for their upcoming final examination, Beijing Radio Station, Beijing, China.
1991-1994 Graduate Student Instructor, Chemistry Department, Beijing Normal University.
Responsible for "Chemistry method course lab" course as mentioned above.
Number of students: 15 each class; totally about 30 students each year.

Research Experience
Oct. 2006-Present Guest Professor, South China Normal University
July 2005- Present Assistant Professor and faculty researcher, LSL, National Institute of Education, Nanyang Technology University, Singapore
Fall 2004-2005 Research Associate, College of Education, Michigan State University.
For a science teacher education project, Teachers for a New Era (TNE) (www.tne.msu.edu), I am a research coordinator to write research proposal, analyze data, and write papers collaboratively with faculty and graduate students from the College of Education and College of Nature Science. I am also working with a committee to invite some distinguished visiting scholar in science education to visit MSU for academic exchange. For the US-China Center (www.china-us.us), I write papers and develop research plans for comparative science education research.
Directors: Bob Floden (TNE); Yong Zhao (US-China Center)
2003-2007, Invited researcher, *Cadre teacher professional development for fostering young children's creativity* research project, Youth department, Chinese Association of Science and Technology (CAST) [*CAST in China functions like AAAS in the US.*]
Fall 2003-Summer 2004 Postdoctoral fellow, LRDC, University of Pittsburgh. A joint project with Carnegie Mellon University (http://ir.chem.cmu.edu/irproject/). It is part of the US National Science Digital Library (NSDL) project, National Science Foundation. Co-designed the research on how college introductory chemistry students use a web-based *chemistry virtual lab* learning environment, research design, data collection, and analysis.
Faculty mentors: Gaea Leinhardt (LRDC, University of Pittsburgh);

David Yaron (Carnegie Mellon University)

Fall 2002-Winter 2003 CARAT research fellow, the office of the Provost and Dean of the Horace H. Rackham School of Graduate Studies, University of Michigan (http://carat.umich.edu). Co-designed the research on how college introductory chemistry students used a web-based learning environment called *Seeing through Chemistry*, research design, data collection, and analysis.

Fall 1999-Fall 2002 Graduate Student Research Assistant, Electrical Engineering and Computer Science Department, College of Engineering, University of Michigan
Primary project: ASSESS (Analyzing Scaffolding Software in Educational Settings for Science) project--Previously called, KDI (Knowledge and Distributed Intelligence) project, National Science Foundation. Conducted classroom observations; video-typing three seventh grade science classes; collected and analyzed process video data, students' artifacts and other data; co-developed a coding scheme for data analysis; wrote research papers; provided feedback to teachers and software developers according to our research results.

1998 Research member, Research and Development of Chemistry Teaching Methodology and Curricula for the 21st Century, national 9th-five-year key research project, sponsored by The State Education Department of China

1997-1998 Research member, Research and Development of CAI Software for High School Students (Grant No. 96-750-3). National 9th-five-year educational key research project sponsored by The State Education Department of China

1995-1996 Research member, Research on the Relationship between MEC and Chemistry Teaching in High Schools, research project sponsored by The State Education Department of China (As part of the national 8th-five-year project)

1993-1998 Research member, the Beijing Area MEC* Chemistry Test Paper Survey Group

1994-1995 Computer-based archive management, Archives at Beijing Normal University

***** MEC= Matriculation (National College Entrance) Examination of Chemistry

Publications

Journal papers

Lin, X., Zhang, B. H., Liang, L., Fulmer, G., Kim, B., & Yuan, H. Alignment between the physics content standard and standardized test: A comparison among US-NY, Singapore, and China-Jiangsu. Manuscript submitted for publication

Zhang, B. H., Deng, F., & Li, J. Computer-based modeling and student-centered science learning: Research progress and implications (in Chinese). Manuscript submitted for publication

Zhang, B. H., Liu, X., & Krajcik, J. S. Using computer modeling to promote argumentation in middle school science. Manuscript submitted for publication

Chen, W., Tan, N., Looi, C.-K., Zhang, B. H, & Seow, P. (Accpted). Handheld computers as cognitive tools: An environmental learning project in Singapore. *Research and Practice in Technology Enhanced Learning*.

Gu, X., Zhang, B., & Lin, X. (Accepted). Evaluating online solutions for experiential support of distance teachers in China. *Journal of Computer Assisted Learning*.

Gu, X., Song, X., & Zhang, B. H. (2008). Designing Learning Supports for Experiential Online Teacher Professional Development (In Chinese). *Open Education Research 14*(1). [This is the first distance education journal in China that has been included in CSSCI (Chinese Social Science Citation Index) database.]

Lin, X., Huang, R., & Zhang, B. H. (2008). What can we learn from others: Review of four global technology-supported teacher education programs (in Chinese). China Educational Technology(5).

Seow, P., Zhang, B., Chen, W., Looi, C. K., & Tan, N. (2008). Learning about "Reduce, Reuse and Recycle (3Rs)" with mobile technologies. *International Journal of Mobile Learning and Organisation (Special issue)*, 3(1).

Deng, F., Qian, Y., Liu, X., Chen, H., & Zhang, B. H. (2007). Singapore GCE A-level chemistry exam analysis and implications. *China Examinations, 2*.

Deng, F., Zhang, B. H., & Qian, Y. (2007). Brief introduction and comments on British GCE A-level chemistry examination (in Chinese). *Education in Chemistry 1*, 52-55.

Zhang, B. H., Liu, X., & Krajcik, J. S. (2006). Expert Models and Modeling Processes Associated with a Computer Modeling Tool. *Science Education, 90*(4), 579-604.

Zhang, B. H., Krajcik, J. S., Sutherland, L. M., Wang, L., Wu, J., & Qian, Y. (2003). Opportunities and challenges of China's inquiry-based education reform in middle and high schools: Perspectives of science teachers and teacher educators. *International Journal of Science and Mathematics Education, 1*(4), 477-503. (An earlier version of this paper was presented at AERA 2003 annual conference, April 21-25, Chicago, Illinois)

Fishman, B., & Zhang, B. H. (2003, Planning for technology: The link between intentions and use. *Educational Technology, 43*(3), 14-18.

Fretz, E. B., Wu, H.-K., Zhang, B. H., Davis, E. A., Krajcik, J. S., & Soloway, E. (2002). An investigation of software scaffolds supporting modeling practices. *Research in Science Education, 32*(4), 567-589.

Zhang, B. H., Ge, W., and Yang, W. (1998) What Can A Computer Do For Chemistry Teachers? *Journal of Chemistry Education*, 2, p. 29-31 [In Chinese]

Li, Z., Zhang, B. H. (1995). Analysis of MEC Problems In A New Environment, *Journal of Teaching Reference for Middle School Chemistry, 4, p. 5*-8 [In Chinese]

Zhang, B. H., Pu, F. (1995). A Series of the Lectures on the Scientific Methods: Experimental Methods, *Journal of Science Education, 3, p. 17-22* [In Chinese]

Zhang, B. H. (1995) Practice of Chemical Observation, *Journal of Science Education, 1, p. 26-28* [In Chinese]

Li, Z., Zhang, B. H. (1995) Analysis of MEC Test Paper of 1994, *Journal of Math, Physics and Chemistry for Third Grade Senior High School Teacher and Students, 1994-1995, 1, p. 39-40* [In Chinese]

Zhang, B. H. (1994) A Brief Introduction to the Salter's Chemistry Curriculum and Its Teaching Methods, *Journal of Chemistry Teaching, 7, p. 12-16* [In Chinese]

Chinese Chemical Society Steering Committee of the Chemistry Olympiads, (1994), Report on the National Conference of Chemistry Olympiads, *Journal of Chemistry Education, 12, p. 42-43* [In Chinese]
[*I wrote the report and other committee members provided feedback for revision*.]

Book chapters

Fretz, E. B., Wu, H.-K., Zhang, B. H., Davis, E. A., Krajcik, J. S., & Soloway, E. (2007). An investigation of software scaffolds supporting modelling practices. In J. K. Gilbert (Ed.), *Science Education: Major Themes in Education*, Volume III (pp. 273-297). London: Routledge

Njus, R., Zhang, B. H., & Lustick, D. (2007) Chapter 7: Where the rubber meets the road: A principal's story concerning policy implementation. In Zhao, Y. & Lustick, D. (Eds.), *Government, Assessment, and Accountability in the United States: A Primer ForChinese Educational Leaders*. Beijing: Beijing Normal University Press. [*English version is published on the US-China center's web site:* http://ott.educ.msu.edu/excellence/web/books.asp]

Tan, N., Chen, W., Looi, C.-K., Zhang, B., Seow, P., Chan, A., et al. (2007, November 5-9). *Handheld computers as cognitive tools: An environmental learning project in Singapore.* In Hirashima, T., Hoppe, U. & Young, S. S-C. (Eds.) *International Conference on*

Computers in Education, Hiroshima, Japan - "Supporting Learning Flow Through Integrative Technologies" (pp. 377-384). Amsterdam: IOS Press. ***Best Paper Award.***

Zhang, B. H. (2006). Using ICT Programs as Cognitive Tools for Student-Centered Learning. In M. S. Khine (Ed.), *Teaching with Technology: Strategies for Engaged Learners* (pp. 95-123). Singapore: Pearson Prentice Hall.

Zhang, B. H., Lustick, D., & Chang, S.-P. (2006). What accounts for good curricula?—A basic framework [in Chinese]. In Y. Zhao, D. Lustick & W. Yang (Eds.), *A Framework for Schools of Excellence* (pp. 36-60). Shanghai: East China Normal University Press. [*English version is published on the US-China center's web site*: http://ott.educ.msu.edu/excellence/web/books.asp]

Zhang, B., Patterson, R., Richmond, G., Parker, J., Merrill, J., Urban-Lurain, M., et al. (2005). Using self-response system and online learning environment to promote science learning in a large college class. In C.-K. Looi, D. Jonassen & M. Ikeda (Eds.), *Towards Sustainable and Scalable Educational Innovations Informed by the Learning Sciences - Sharing Good Practices of Research, Experimentation and Innovation* (pp. 572-578). The Netherlands: IOS Press

Zhang, B. H., Qiu, W. and Wang, C. (1997), editor of Chemistry section, in Liu M. (Eds), *Learning methods of middle school subjects,* Hunan Education Press. [In Chinese]

Refereed conference papers and presentations

Seow, P., Zhang, B. H., So, H.-J., Looi, C. K., & Chen, W. (2008). *Towards a framework for seamless learning environments*. Paper presented at the International Conference for the Learning Sciences Utrecht, the Netherland.

Liu, X., Zhang, B., Liang, L., Fulmer, G., Kim, B., & Yuan, H. (2008). Alignment between the physics content standard and standardized test: A comparison among US-NY, Singapore, and China-Jiangsu. Paper presented at the Annual Meeting of the National Association for Research on Science Teaching.

Zhang, B., Deng, F., Jacobson, M., & Kim, B. (2008). *Exploring the representational affordances of two types of modeling tools*. Paper presented at the Annual meeting of the American Education Research Association. [Chair of the symposium]

Zhang, B., Jacobson, M., Kim, B., Deng, F., Lin, X., & Pathak, S. (2008). *Exploring modeling and visualization technology (MVT) enhanced biology teaching and learning in Singapore* Paper presented at the International Conference for the Learning Sciences (ICLS), Utrecht, the Netherlands. [Chair of the symposium]

Wong, L.-H., Zhang, B., & Jacobson, M. J. (2007, May 26-30). *Co-designing inquiry-based pedagogy with a primary science teacher when integrating computer-based modeling: Challenges and opportunities.* Paper presented at the Global Chinese Conference on Computers in Education, Guangzhou, China.

Seow, P., Looi, C. K., Zhang, B., Chung, T. M., Oh, T. T., Chen, W., et al. (2007, May 26-30). *Learning the 3Rs with mobile technologies*. Paper presented at the Global Chinese Conference on Computers in Education 2007, Guangzhou, China.

Zhang, B. H., Kim, B., Chew, L. C., & Jacobson, M. (2007, April 9-13). *The alignment of societal goals for science education, national syllabi, and assessments: The case of Singapore's O-level national science syllabi and 2006 science examinations* Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, USA

Zhang, B. H., Wong, L. H., & Jacobson, M. J. (2007, April 9-13). *Primary science student computer-based modelling practices and understandings of content and modelling* Paper

presented at the Annual Meeting of the American Educational Research Association, Chicago, USA.

Zhang, B. H. (2006). *Middle school science students' computer-based models and their changes over time* International Science Education Conference 2006, Singapore.

Zhang, B., Chen, W., Looi, C. K., Tan, N., Seow, S. K., Oh, T. T., & Chung, T. M. (2006, November 22-24). *Using mobile learning technologies for primary environmental education in Singapore schools.* Paper presented at the International Science Education Conference 2006, Singapore.

Zhang, B., & Khine, M. S. (2006, June 2-5). *Designing an ICT in Education Course for Pre-Service Teachers to Use Technologies as Cognitive Tools.* Paper presented at the The Global Chinese Conference on Computers in Education (GCCCE), Beijing.

Zhang, B. H., Wong, L. H., Chew, L. C., Jacobson, M. J., & Looi, C. K. (2006, May 21-26). *Using Computer-Based Modelling for Primary Science Learning and Assessment.* Paper accepted at the 32nd Annual Conference of International Association for Educational Assessment, Singapore.

Zhang, B. H., Chen, W., Looi, C. K. (December 1, 2005), *Handheld computers in Singapore Schools—A brief survey,* Panel discussion presentation at the 13th International Conference on Computers in Education, Singapore.[Session Chair: Michael Jacobson; Panelists: Tak-Wai Chan, Peter Reimann, Kinshuk, Marcelo Milrad, BaoHui Zhang]

Zhang, B. H., Patterson, R., Richmond, G., Joyce Parker, Merrill, J., Urban-Lurain, M., et al. (November 28-December 2, 2005). *Using Self-response System and Online Learning Environment to Promote Science Learning in A Large College Class.* Paper presented at the 13th International Conference on Computers in Education, Singapore.

Zhang, B. H., Evans, K., Leinhardt, G., Yaron, D., Cuadros, J., Karabinos, M., & Palucka, T. (2004, July 18-22). *Using an online virtual laboratory to promote undergraduate students' reasoning and conceptual understanding about chemistry: Comparison of different instructional designs.* Paper presented at the 18th Biennial Conference on Chemical Education, Ames, Iowa.

Fretz, E., Wu, H.-K., Zhang, B. H., Krajcik, J.S., Soloway, E. (2002). *An further investigation of scaffolding design and use in a dynamic modeling tool*. In Reiser, B., Characterizing and Evaluating Software Scaffolds for Scientific Inquiry, Symposium conducted at the Annual Meeting of the American Educational Research Association, April 1-5, New Orleans, LA.

Zhang, B. H., Krajcik, J. S., Wang, L., Wu, J., & Qiang, Y. (2002, August 6-10). *How do Chinese science teachers' conceptions of the nature of science compare their responses to constructivist teaching theories and practices?* Paper presented at the 17th International Conference On Chemical Education [17th ICCE], Beijing, China.

Zhang, B. H., Wu, H.-K., Fretz, E. B., Krajcik, J. S., Marx, R., Davis, E. A., & Soloway, E. (2002, April 7-10). *Comparison of modeling practices between experts and novice learners using a dynamic, learner-centered modeling tool.* Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, New Orleans, LA.

Zhang, B. H., Wu, H.-K., Fretz, E. B., Krajcik, J. S., & Soloway, E. (2001, March 26-28). *Exploring middle school students' modeling process and cognitive strategies when using a computational modeling tool.* Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, St. Louis, MO.

Fretz, E. B., Wu, H.-K., Zhang, B. H., Krajcik, J. S., & Soloway, E. (2001). *An investigation of scaffolding design and use in a dynamic modeling tool.* Paper presented at the Annual Meeting of the National Association for Research in Science Teaching, March 26-28, St. Louis, MO.

Zhu, W., Zhang, Y., Zhang, B. H. (1997) Chemical Literacy Education for Chinese Non-

science Major Undergraduate Students, paper presented at the Fifth National University Chemistry Conference, Liaoning University Press, Shenyang, N.E. China. [In Chinese]

Selected Invited and Non-refereed Presentations

Zhang, B. H. (2008, Aug. 20-22), Invited speaker, *Science teacher employment system at secondary level in Singapore*, 54th annual conference of Korean Association for Science Education (KASE), Pusan National University, South Korea

Zhang, B. H. (2008, July 2), *Inquiry and Modelling for Primary and Secondary Science Learning*, Invited presentation by the European Media Lab, Heidelberg, Germany

Zhang, B. H., Seow, P. (2008, January 21), *Constructing Seamless Learning Environment (SLE) for Engaged Student-centered Learning*, Invited presentation by IDA with MOE LEAD ICT PMO, IDA Headquarter, Singapore

Zhang, B. H., (2007, December 23), *Supporting and Assessing K-12 Science Student Computer-based Modeling Practices*, Invited talk, Chemistry Education Research Institute, Beijing Normal University, Beijing, China (Audience included faculty and graduate students in chemistry, physics, and biology education. The talk was delivered during a trip to celebrate Professor LIU Zhixin's 80th birthday at BNU.)

Zhang, B. H., (2007, December 20), *Computer-based Modeling--A Case of Science Education Research Methods*, Invited talk, Chemistry Teaching and Resource Institute, South China Normal University, Guangzhou, China (The talk was part of his responsibilities as a guest professor to the University)

Zhang, B. H., Looi, C.-K., & Seow, P. (2007, August 15-17). *Assessing primary science student learning in seamless learning environment* Paper presented for the Second International Workshop on Mobile and Ubiquitous Learning Environments, Hong Kong.

Seow, P., & Zhang, B. (2007, Aug. 15-17). *Designing a one-to-one computer supported seamless environment for inquiry-based science learning.* Paper presented at the Second International Workshop on Mobile and Ubiquitous Learning Environments, Hong Kong.

Zhang, B. H., Jacobson, M. J., Wong, L.-H., & Kim, B. (2007, June 11-14). *Supporting and assessing K -12 inquiry and student computer-based modeling practices.* Paper presented at the Second Distributed Learning and Collaboration (DLAC-II) Symposium, Singapore.

Zhang, B. H., (2006, June 20), *Technologies for educational research*, Invited speech, Chemistry Teaching and Resource Institute, South China Normal University, Guangzhou, China

Zhang, B. H., (2006, June 19), *Inquiry and modeling for science learning*, Invited speech, Chemistry Teaching and Resource Institute, South China Normal University, Guangzhou, China

Looi, C. K., Zhang, B. H., & Wong, L. H. (2006, June 2-5). *1:1 Mobile Computing Devices in Singapore Schools: A Brief Survey*. Forum Discussion Presentation at the The Global Chinese Conference on Computers in Education (GCCCE), Beijing.

Zhang, B. H., (2006, June 6), *The field of the Learning Sciences and my experience with Learning Sciences research*, Invited speech, Chemistry Education Research Institute, Beijing Normal University, Beijing, China

Zhang, B. H., (2006, March 10), *Learning technologies go to school—What did we do in Singapore*, Invited speech, Nanjing Normal University, Nanjing, China

Zhang, B. H., (2006, March 8), *Learning technologies and science learning*, Invited speech, Jiansu Education Press, Cadre primary science teacher professional development seminar 2006, Chengdu, China (See the video of the presentation here: http://www.xxkx.cn/Article_Show.asp?ArticleID=1536)

Zhang, B. H., Chen, W., Looi, C. K. (December 1, 2005), *Handheld computers in Singapore Schools—A brief survey*, Panel discussion presentation at the 13th International Conference on Computers in Education, Singapore.[Session Chair: Michael

Jacobson; Panelists: Tak-Wai Chan, Peter Reimann, Kinshuk, Marcelo Milrad, BaoHui Zhang]

Zhang, B. H. (2004, July 29-August 1). *Internet-based teaching and research*. Invited, Chinese Association for Science and Technology: Cadre high school teacher professional development seminar 2004, Qingdao, China.

Zhang, B. H., 2003, Exploring middle school science students' computer-based modeling practices and their changes over time. Invited, the presentations were made during an academic exchange trip to IPN (*Institute for Science Education*), Kiel University, Germany and INRP (*National Institute of Pedagogical Research*), Paris, France from Nov. 22 to Nov. 30, 2003.

Column in Chinese IT and Education Magazine

Zhang, B. H. (2007). Interview about 1:1 digital learning (in Chinese). *China Educational Technology, 245*, 1-3.

Research report

Wang, M., Dong, J., Zhang, B. H. (July, 1994, 1995, 1996). Analysis of MEC test results in Beijing area (MEC* analysis group), Beijing, China [In Chinese]

Contributor to Chinese publications

Wu, G. (Eds) (1995), History of Chemistry Olympiads, Guang Xi Educational Publishing House, Guang Xi, China [In Chinese]

Consultation

2008-present, Mobile learning, Damai Secondary School, Singapore

Professional Affiliations

2008-present Co-chair of APSCE SIG CUMTEL (APSCE: The Asia-Pacific Society for Computers in Education; CUMTEL: Classroom, Ubiquitous and Mobile Technologies Enhanced Learning).
2008-present International Society of the Learning Sciences (ISLS) —Member
2008-2010 NARST's JRST Award Committee member
2006-2010 Executive committee member, GCSCE (Global Chinese Society for Computers in Education)
2000-present American Education Research Association (AERA)—Member
2000-present National Association for Research in Science Teaching (NARST)—Member

Services to the Field and Universities

Journal editorial board

International Journal of Environmental and Science Education, 2008 - Present

Journal paper reviewer

Teaching and Teacher Education, 2008- Present
International Journal of Mobile Learning and Organisation (IJMLO), 2008- Present
Journal of the Learning Sciences, 2006 - Present
Science Education, 2005- Present
International Journal of Science Education, 2005- Present
International Journal of Science and Mathematics Education, 2005- Present
Technology Pedagogy and Education, 2005- Present

Conference paper reviewer:

ICCE 2008 Conference on CUMTEL & DIGITEL, Program committee, co-chair
IADIS International Conference on Mobile Learning 2007 (Program committee)
International Conference of the Learning Sciences (ICLS), 2001, 2004, 2006, 2008
The Global Chinese Conference on Computers in Education (GCCCE), Beijing, 2006, 2007
International Conference on Computers in Education (ICCE), Singapore, 2005.
Annual Conference of NARST 2002, 2003, 2007, 2008 (Strand 7 Educational technology)
Annual Conference of American Education Research Association (AERA) 2002
Annual Conference of AACTE 2002, http://www.aacte.org/

Service to the University:
2008, Interim committee member of NIE Human Research Ethics
2007- Present, International outreach liaison, Learning Sciences Lab, NIE, NTU
2007, Standard Operation Procedure (SOP) review committee member (a.k.a, TOR committee), Learning Sciences and Technologies Academic Group, NIE, NTU

Experiences with Using Software Programs

SPSS, Morae, NUD*IST, Studio Code, FileMaker Pro., Model-It, Netlogo and many web-based teaching platforms (e.g. Blackboard and LON_CAPA)

Software and Program Files Production

Fall, 2002-Summer, 2003, Assisted in designing a research tool called *Event Recorder* (ER) with Michael Bleed and Carl Berger, University of Michigan.
The software package allows researchers to collect real time data, analyze data, graph data for finding patterns, primarily for software usability testing.

Fall, 2002-Winter, 2003, Web learning environment design and evaluation for undergraduate chemistry courses: *Seeing Through Chemistry*, CARAT project at the University of Michigan

Winter, 2002, worked as one of the four team-members for ed728 and ed603 courses collaborating with teachers and students from Greenhills School at Ann Arbor, MI. Design and evaluation of a data-base driven, web-based program for middle and high school wellness students, School of Education, University of Michigan

1999 Narrated a two-hour training videotape for Delphi Company's Shanghai branch, *How to deal with chemical hazards*, Expert Language Service, USA

1999 Two File Maker Pro. Databases files for administration purposes, Hi-ce program, School of Education, University of Michigan

1998 Co-designed *The Macro-Organic Chemistry World*, Middle school chemistry learning tool as a product of "the National Research group of Chemistry Software Design", Beijing Normal University Press, Beijing, China.

1996 Co-designed *Multi-media Software for Middle School Chemistry Teaching and Learning*, Oxford-Cambridge Company, Beijing, China

Honors

2006, Being awarded a $500.00 stipend and complimentary registration for ICLS 2006 Junior Faculty Consortium (Funded by the US National Science Foundation)

2003-2004, **CARAT (C**ollaboratory for **A**dvanced **R**esearch and **A**cademic **T**echnologies) fellow, Office of the Provost, University of Michigan

October 2002, $500 complementary fund for the effort of promoting academic exchange between colleagues at UM and China, the Horace H. Rackham School of Graduate Studies, University of Michigan

1995 Nominated the first grade paper by the *Chinese National Conference on the Relationship of MEC and the High School Chemistry Teaching*, Beijing, China

1992, 1993 Nominated Excellent Graduate Student Leader, Beijing Normal University,

Beijing, China
1989 Nominated Excellent Undergraduate Student Leader, Harbin Normal University, Heilongjiang Province, China
1988, 1989 Nominated Excellent Undergraduate Academic Scholarship, Harbin Normal University, Heilongjiang Province, China

Credentials
2001 Certificate of Achievement, Intercultural Leadership Colloquium, University of Michigan
1989 High school chemistry teaching certificate, Heilongjiang Province, China
1998 Chinese Teaching Credential, College of Teaching Chinese as a Second Language, Beijing Normal University http://www.bnu.edu.cn/efaculty/yf11.htm.

Language Skills
Fluent Chinese and English; Reading ability in Japanese with dictionary.

Other Academic Activities
Coordinator for academic exchange trips
January, 2006, Coordinator and interpreter for Chinese Science Education Researchers Delegation (Including Professor HAO Jinghua and Professor WANG Zhong) from Nanjing for their academic exchange trip to NIE and Singapore Schools [Host: Associate Professor LOOI Chee Kit, Director of the Learning Sciences Lab, NIE].
November, 2004, Coordinator and interpreter for the associate chief editor, People's Education Press, Mr. Yizhu Liu and Mr. Da Yao for their academic exchange trip to the University of Michigan and Michigan State University
July 28-August 5, 2004, Coordinator, interpreter, and one of the presenters for an academic trip to China. Host: China Association for Science and Technology. US researchers: Dr. Joseph Krajcik (University of Michigan), Dr. George DeBoer (Project 2061), Dr. James Minstrell (FACET Innovations, LLC), and Dr. BaoHui Zhang (LRDC, University of Pittsburgh).
September 2003 Coordinator and interpreter for Prof. Yiping Huo from East China Normal University, for her visit to School of Education, the University of Michigan. Host: Dr. Joseph Krajcik
March 21-22, 2003, Simultaneous translator (English to Chinese and Chinese to English), Conference on the labor of reform: Employment, workers' rights, and labor law in China, School of Social Work, University of Michigan
August 2001 and September 2002 Coordinator and interpreter for Professor Krajcik's academic exchange trips to China (Cities included but not limited to Beijing, Shanghai, Tianjin, and Guang Zhou).

May 1995 Founder, Beijing Normal (Teacher's) University Undergraduate Student Science and Technology Activity Center, Beijing, China
August 1994-June 1996 Coordinated with Professor Wu, Guoqing on three national academic conferences: *National Conference on Chemistry Olympiads*, Beijing; *National Conference on MEC*, Beijing; *National Conference on Chemical Education*, Beijing, China

Volunteer Activities
Fall 2003-2004, Co-chair, alumni program of *Chinese Student and Scholar Association* (CSSA), the University of Michigan
January, 2002-December, 2003, International graduate student representative, School-

wide Student Organization Planning Committee, School of Education, University of Michigan. The organization won the Michigan Leadership Award for Outstanding Student Organization on April 7th, 2003.
Committee leader: Annemarie Sullivan Palincsar, and later Jeff Mirel, associate dean, School of Education, University of Michigan.

January, 2001-present Working Team member on international student issues (WTISI)—University of Michigan international web page design group,
Team leader: John Godfrey, assistant dean for international education, Rackham Graduate School, University of Michigan.

Summer 2000 Volunteer as one of the peer advisors for international student orientation, International Center, University of Michigan.

May, 2000 Volunteer Chinese interpreter for ISEF 2000 (International Science and Engineering Fair 2000), Detroit, MI.

References

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Barry J. Fishman, Associate professor of Learning Technologies, University of Michigan
Telephone number: 734-647-9572 (O); Email: fishman@umich.edu
Ronald Marx, Professor of Educational Psychology; Dean, College of Education, University of Arizona
Telephone number: 520-621-1081 (O); Email: ronmarx@email.arizona.edu
Robert E. Floden, Professor of Teacher Education, College of Education, Michigan State University
Telephone number: 517-355-3486 (O); Email: floden@msu.edu