



International Conference on Science Education 2012 (Nanjing, China)

Science Education: Policies and Social Responsibilities

Conference Program

October 12-15, 2012
Nanjing, China



Welcome

It is our greatest pleasure to welcome you to the International Conference on Science Education 2012 (Nanjing, China). The ICSE2012 conference is co-organized by the National Association for Science Education, the Chinese Society of Education (CNASE) and the Institute of Education of Nanjing University.

At the age of globalization, different countries have paid more attention to science education, and been eager to learn from each other to develop the human resources in science and technology sector as well as to improve citizen's scientific literacy. Because of the differences in culture and tradition between the western and eastern worlds, there have been many challenges when implementing the theories of science education which generated from the west into the Chinese context with Confucius tradition. This subsequently leads to our reflection of western science education tradition. With regard to building up a harmonious globe, China might be the region where science education is most urgently needed; it is also most likely the region where theoretical innovation of science education would emerge. We hope the ICSE2012 (Nanjing) conference can be a good platform for international science education scholars to share their ideas, experiences, strategies to address science education challenges in this globalized world; further, we hope through this academic communication and collaboration we can make our contribution to the development of new ideas of science education theories and practice which would combine the merits of all nations and cultures.

Science education research is vital in the development of national science education policies, including standards, teacher professional development and public understanding of science. Science education researchers study the quality, feasibility, and alignment of standards at different levels with regard to curriculum materials, assessment practices, and science teacher certification requirements; they also seek ways to bridge formal and informal science education. Science education research thus affects a nation's ability to fulfill its social responsibilities. Therefore, the ICSE 2012 conference welcomes science education researchers from around the world to exchange experiences, challenges, and strategies in science education research around the above stated areas. These are around a common theme of 'Science Education: Policies and Social Responsibilities'.



Professors Shujin Peng and Xiufeng Liu

Co-Chairs, ICSE2012 International Organizing Committee

Professors Hongshia Zhang and Baohui Zhang

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Keynote Speakers



Prof. Sharon Lynch
George Washington University,
USA, and president of NARST



Prof. Joseph Krajcik
Michigan State University, USA



Prof. Shigeki Kadoya,
National Institute for Educational
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Prof. Zhang Hongshia Dean,
Institute of education, Nanjing
University



Prof. Dongchuan Yu
Director, Key Laboratory of Child
Development and Learning
Science, Ministry of Education,
Southeast University, China

Conference Program

Oct. 12, 2012, Friday			
NanYuan Hotel &Anzhong Hotel (Nanjing University, Gulou Campus)			
9:00--23:00	Registration		
Oct. 13, 2012, Saturday			
YiFu Building-1:Lecture Hall			
	Presider: Prof. Hongshia Zhang		
8:30--9:00	Greetings and welcome speeches--leaders from Ministry of Education, Dept. of Education, Jiangsu Province, and Nanjing University		
9:00--9:15	Conference Overview (Prof. Baohui Zhang)		
Presider: Xiufeng Liu			
9:15--10:00	Inclusive STEM High Schools: Improving Educational Opportunity and the Economy	Prof. Sharon Lynch	George Washington University, USA
10:00--10:30	Photo-taking(Presider: Dr. Yonggui Liu) in front of main entrance of Yifu Building Tea-break		
10:30--11:15	Science Education Policies in China (<i>Temporary title, In Chinese</i>)	Prof. Zuoshu Wang	Capital Normal University, China
11:15--12:00	Implications of the K -12 Science Education Framework and Next Generation of Science Standards for Teaching and Learning	Prof. Joseph Krajcik	Michigan State University, USA
12:10--13:50	Lunch(Xiyuan Restaurant)		
Oct. 13, 2012, Saturday			
YiFu Building-1:Lecture Hall			
Presider: Shujin Peng			
13:50--14:35	Training for Science Teachers in Primary and Middle School and the Development of Science Education Profession in China	Prof. Shujin Peng	Sichuan Normal University, China
14:35--15:20	An Overview of Science and Technology Education in Nigeria	Dr. Ben Akpan	International Council of Association for Science Education

15:20--16:05	The Scientific Quality Situation and Development Tendency of Chinese Citizens	Prof. Fujun Ren	China Research Institute for Science Popularization
16:05--16:20	Tea-break		
Presider: Changchun Lin			
16:20--17:05	The Development, Implementation and Evaluation of Science Education Standards in Germany	Mr. Peter Nentwig	University of Kiel Germany
17:05--17:50	IAP-IBSE and Assessment in Science Education	Prof. Dongchuan Yu	Southeast University, China
17:50--18:35	How to Enhance the Quality of Science Lesson in Japan?	Prof. Shigeki Kadoya	National Institute Educational Policy Research, Japan
18:35--20:00	Dinner(Xiyuan Restaurant)		

Oct. 14, 2012, Sunday			
Location: Fei YiMin Building A-318			
Presider: Prof. Weiping Hu			
8:30--9:15	Preservice Science Teacher Education: What Can China and the US Learn from Each Other?	Prof. Xiufeng Liu	State University of New York at Buffalo, USA
9:15--9:45	Public Science, Science Education, and Citizen Science Literacy (In Chinese)	Prof. Choyee To	Chinese University of Hong Kong
9:45--10:15	Reaffirmation and Modification of Dewey's Philosophy of Education for the Globalized Era	Prof. Hongshia Zhang	Nanjing University, China
10:15-10:30	Tea-break		
Concurrent Session (Part I): 10:15--12:30			
Session 1:Posters			
Location: Fei Yimin Building A-318			
Presider: Dr. Yongjun Ma			
10:30--12:30	Posters (14+)		

Session 2:(Theme) Science Education Curriculum Standards Location: Fei Yimin Building A-310			
Presider: Prof. Dongchuan Yu			
10:30--11:00	Stability and Trends in High School Chemistry Curriculum Standards: By Comparison of International Curriculum Standards	Lei Wang, Mingchun Huang	Beijing Normal University
11:00--11:30	An Exemplary Study of Processes Establishing and Practicing National Science Education Policy	Sung-Jae Pak	Seoul National University, Republic of Korea
11:30--12:00	Representations of Nature of Science in Selected Histories of Science in the Integrated Science Textbooks in China	Bing Wei	University of Macau
12:00--12:30	Examining the Impact of Globalization at the Macro, Meso, and Micro Levels: Employing Intersectionality and Cultural Sociology to Understand the Impact of Immigration on K -12 Science Teaching and Learning in the USA	Sonya N. Martin	Seoul National University, Republic of Korea
Session 3:(Theme) Public Science Education Location: Fei Yimin Building A-305			
Presider: Prof. Fujun Ren			
10:30--11:00	Evaluative Thinking in the Building of Learning Society	Nian Zheng, Limei Zhang, Huijun Zhang	China Research Institute for Science Popularization
11:00--11:30	Structure of the Student Interest in Science and Scientific Literacy: Using the Latent Class Analysis	Takuya Matsuura	Hiroshima University, Japan
11:30--12:00	Exploring the primary and middle school students' senses on science and technology based the survey information for the sixth edition 100,000 Whys (In Chinese)	Keping Sun, Xiaoli Deng	Shanghai Normal University
12:00--12:30	Search for SEAMEO Young Scientists (SSYS)–RECSAMs Initiative in Promoting Public Science Education: The Way Forward	Dominador Dizon Mangao	SEAMEO RECSAM, Malaysia
Session 4:(Theme) Science Teacher Education+ Science Education Curriculum Standards Location: Fei Yimin Building A-304			
Presider: Prof. Subramaniam Rananathan			
10:30--11:00	Changes from the Curriculum Reform of Basic Education And	Boqin Liao	Southwest

	Teacher Training in China		University
11:00--11:30	Students' Perception Concerning Science Teachers' Pedagogical Content Knowledge	Lilia Halim	Universiti Kebangsaan, Malaysia
11:30--12:00	Some Approaches in IT Integration in Physics Education (Distance)	A.I. Fishman	Kazan Federal University, Russia
12:00--12:30	Impact Analysis of Student Centered Inquiry Based Project and its Implications on Standards of Science Curriculum in Pakistan (Distance)	Alyas Qadeer Tahir	National Institute of Science and Technical Education, Pakistan
Session 5: Other Themes Location: Fei Yimin Building A-303			
Presider: Prof. Yi Bai			
10:30--11:00	A Research on the Nature of Science Education from the Perspective of Science Rooted in Philosophy (In Chinese)	Guanjie Liu	Zhengzhou Normal University
11:00--11:30	Laboratory-Based Scaffolding Strategies for Learning School Science	Sau Kheng Au, Kok Siang TAN	National Institute of Education, Singapore
11:30--12:00	A Study of Pupils Pose Ill-structured Problem in Knowledge Building Class (In Chinese)	Li Zhang, Yibing Zhang	Nanjing Normal University
12:00--12:30	Exploration of High school Students' Concepts about Climate Change through Issue Concept-map (IC-map)	Kongju Mun	Ewha Womans University, Republic of Korea
12:40--14:00	Lunch(Xiyuan Restaurant)		
Concurrent Session (Part II):14:00--16:00			
Session 1:(Theme) Science Education Curriculum Standards Location: Fei Yimin Building A-318			
Presider: Dr. Juan Ni			
14:00--14:30	Study on Comparison of the Concept in the Science Textbook between China and Australia (In Chinese)	Hong Cui, Kunlan Zhao	Central China Normal University

14:30--15:00	Investigating Current Situation of Science and Technology Education Master Programs in China (In Chinese)	Baohui Zhang, Jing Zhang	Nanjing University
15:00--15:30	Scientific literacy, Science Nature and Science Inquiry: the Pursue and its teaching expectations of science curriculum standards in the Compulsory education Stage (In Chinese)	Juan Ni	Jiangsu Education Research Institute
15:30--16:00	HOS Content Analysis in China Science Textbooks from the Perspective of Enculturation (In Chinese)	Yongjun Ma	Qingdao University
Session 2:(Theme) Public Science Education + Other Themes Location: Fei Yimin Building A-310			
Presider: Prof. Zhen Lu			
14:00--14:30	The Remarkable Role of Digital Experiment System in the Area of Science Education: Experiences from NSTA & AAPT 2012 (In Chinese)	Ding Li	R & D Center of Shanghai K-12 Digital Lab System
14:30--15:00	Problems, Reasons and Solutions on the Cultivation of Science Student Teachers (In Chinese)	Qi Long	Nanjing Xiaozhuang University
15:00--15:30	On Narrowing the Gap between the Pace of Urbanization and the Progress of Peasants' Science Literacy (In Chinese)	Dongyun Chen	China Research Institute for Science Popularization
15:30--16:00			
Session 3: Other Themes Location: Fei Yimin Building A-305			
Presider: Prof. Sung-Jae Pak			
14:00--14:30	A Cross-Cultural and Cross-Sectional Comparison of Korean, Indonesian, and American Students' Evolutionary Knowledge Growth and Acceptance Change	Minsu Ha	The Ohio State University, U.S.
14:30--15:00	Students' Understanding of Light Propagation and Visibility of Objects in Different Contexts: Stable or Unstable Conceptualization	Hye-Eun Chu	Nanyang Technological University, Singapore
15:00--15:30	The Study of Koreans' View of Nature (Distance)	Yumi Lee Yeon-A Son	Dankook University, Republic of

			Korea
15:30--16:00	Suggesting a Flow Map of the Nature of Science based on Kuhn's Scientific Revolution for Sciences Education (Distance)	Jun-Young Oh	Hanyang University, Republic of Korea
Session 3: Other Themes Location: Fei Yimin Building A-305			
Presider: Prof. Bing Wei			
14:00--14:30	An Empirical Study of Influence Factors of Elementary Science Teachers' Professional Development Level	Xin Shou, Changchun Lin	Chongqing Normal University
14:30--15:00	The Development of POCOM (Practical On-site Cooperation Model) for Korean Science Teacher Profession with the approach of PAR (Participatory Action Research)	Young-Shin Park	Chosun University, Republic of Korea
15:00--15:30	Using Formative Assessment to Develop Pre-service Chemistry Teachers' Teaching Skills (In Chinese)	Silin Wei	Hangzhou Normal University
15:30--16:00	A Study on the Effect of Long-Term Student Teaching in Science Education	Koichi Furuya	Hokkaido University of Education, Japan
Session 5:(Theme) Science Education Curriculum Standards + Science Teacher Education Location: Fei Yimin Building A-303			
Presider: Prof. Yuanhong Yan			
14:00--14:30	History and Challenges of Integrated Science Curriculum Implementation in Zhejiang	Xiao Huang	Zhejiang Normal University
14:30--15:00	Comparative study of 2001&2011 Two Edition Junior Middle School Science Curriculum Standard Based on the View of Nature of Science (In Chinese)	Wenfa Yan	Shaanxi Normal University
15:00--15:30	The Operational Classification of Behavioral Verb in Experiential Target-Taking the Compulsory Education Science Curriculum Standard [2011 Edition]as an Example	Chengyin Yang	Shaanxi Normal University
15:30--16:00	On the Evolution of a Lesson: Group Preparation for Teaching Contest as Teacher Professional Development Activity for Chinese Elementary Science Teachers	Xiaowei Tang, Faxian Shao	Southwest University; Chongqing Institute of

			Educational Science
16:00--16:20	Tea-break		
Concurrent Session (Part III):16:20--18:20			
Session 1:(Theme) Science Teacher Education			
Location: Fei Yimin Building A-318			
Presider: Prof. Keping Sun			
16:20--16:50	Discussion on Enhancing Practical Teaching and Promoting Pre-Career Science Teachers' Vocational Skills (In Chinese)	Hong Feng	Chengdu Normal University
16:50--17:20	Implementing Intercultural Education in Science Teaching (In Chinese)	Yi Song	Nanjing Xiaozhuang University
17:20--17:50	Subject Didactics of Science and the Reform of Science Teacher Education Programs: An International and Comparative Perspective (In Chinese)	Bangping Ding, Xiuye Gao	Capital Normal University
17:50--18:20	Development of an Instrument: Assessing for Effectiveness of Primitive System of Chemistry Classroom Teaching (In Chinese)	Changlong Zheng, Lihai Fu, Peng He	Northeast Normal University
Session 2:Other Themes			
Location: Fei Yimin Building A310			
Presider: Prof. Lilia Halim			
16:20--16:50	Fostering Conceptual Change in Chemistry: Experiences from a Pre-Service Teacher Education Program in Singapore	Subramaniam Rananathan	National Institute of Education, Singapore
16:50--17:20	Energy Education Curriculum for Children Based on Fostering Creativity in Elementary School	Rasol Abdullah Mirzaie	Shahid Rajaee Teacher Training University , Iran
17:20--17:50	Argumentation in University Chemistry Education: A Case Study of Practical Investigations from Activity Theory Perspective	Xiaomei Yan	University of Bristol, UK
17:50--18:20	The International Baccalaureate Diploma Programme Science Courses	David Jones	The International Baccalaureate Organization
Session 3:(Theme) Public Science Education + Other themes			
Location: Fei Yimin Building A305			

Presider: Dr. Silin Wei			
16:20--16:50	The Tentativeness of Scientific Theory: A Case Study on Views across Different Educational Levels in Malaysia	Jasmine Jain	Universiti Teknologi MARA, Malaysia
16:50--17:20	Astronomy School-based Curriculum: the Combination of Resource of Science and Technology Museum and formal Science Learning (In Chinese)	Lihui Wang	China Research Institute for Science Popularization
17:20--17:50	Effect of Different Contexts on Scientific Reasoning: Focusing on the Lower Secondary School Students	Hiroshi Unzai	Hiroshima University, Japan
17:50--18:20	Analysis of International Science Education Research Progress during 1982-2011: Bibliometrical Study base on SCIE and SSCI (In Chinese)	Yanchao Sun	Anyang Normal University
Session 4:(Theme) Science Teacher Education + Other themes Location: Fei Yimin Building A-304			
Presider: Prof. Yibing Zhang			
16:20--16:50	The Major Buildup of Science Education and Science Teachers Cultivation Based on the Concept of Generalist Education: Practice of Science Education of the Last Decade at Taiyuan Normal University (In Chinese)	Yuanhong Yan	Taiyuan Normal University
16:50--17:20	Research on the Chemistry Teachers' Professional Development Status in the Northwest China and Its Countermeasures (In Chinese)	Jiaorong Yang	Shaanxi Normal University
17:20--17:50	A Survey on Primary Science Teachers' Understanding of the Nature of Science (In Chinese)	Jing Cao	Chongqing Normal University
17:50--18:20	Pre-service Science Teachers' Understanding of Scientific Models and Modeling (In Chinese)	Henglu Zhang	Hangzhou Normal University
Session 5:(Theme) Science Education Curriculum Standards Location: Fei Yimin Building A-303			
Presider: Junming Wu			
16:20--16:50	An Alignment Study between Science Education Standards and Test Papers of Middle School Leaving Examination	Daiping Duan Guangzhou Li	Nanjing Normal University

	(In Chinese)		
16:50--17:20	The Call to Innovate: Transformed Notions of the Purpose of STEM Education in Australia	Tanya Doyle	James Cook University, Australia
17:20--17:50	The New Requirements Of the Engineering and Technical Education in The U.S. Science Education	Zhoujing Wei, Yi Bo	Southeast University
17:50--18:20	A Comparative Research on Connections across Disciplinary Areas in Science Standards between China and America (In Chinese)	Yanlin Wang	South China Normal University
18:40--20:30	Dinner (Closing ceremony, Xiyuan Restaurant)		

Oct.15, 2012, Monday	
8:30--11:30	<p>Workshop and Panel Discussions</p> <p>Workshop: Science Education Research and Publication Organizers: Prof. Xiufeng Liu, Prof. Baohui Zhang</p> <p>Panels:</p> <p>1. Panel Discussion on Public Science Education Organizer: Prof. Hongshia Zhang</p> <p>2. Panel Discussion on Public Science Education Organizer: Prof. Shujin Peng</p> <p>3. Panel Discussion on Public Science Education Organizers: Prof. Sung-Jae Pak, Prof. Baohui Zhang</p>
11:45--14:00	Lunch(Xiyuan Restaurant)