



**International Workshop on Rammed Earth Materials and Sustainable Structures &
Hakka Tulou Forum 2011: Structures of Sustainability**

A Special Session at
**International Symposium on Innovation & Sustainability of Structures in Civil Engineering
(ISSS'2011)**

Date: October 28 – 31, 2011

Place: Xiamen University, Xiamen, China

Organized by

West Virginia University Constructed Facilities Center, USA
Xiamen University School of Architecture and Civil Engineering, China
International Hakka Tulou Alliance

Supported by

National Science Foundation of China
Yongding County Government of Longyan City of Fujian Province, China
Longyan City Government of Fujian Province, China

Organizing Committee

Dr. Ruifeng Liang (Chair), Dr. Ying Lei, Dr. Hota Gangarao

Editor of the Workshop Proceedings

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Program at Glance

October 28, 2011, Friday	
12:00 - 21:00	Arrival and Registration
19:00 - 21:00	Welcome Reception
October 29, 2011, Saturday	
08:00 – 09:00	Registration
09:00 – 09:30	Symposium Opening Ceremony
09:30 – 10:30	Symposium Keynote Lectures
10:30 – 11:00	Photo Taking and Tea Break
11:00 – 12:00	Symposium Keynote Lectures
12:00 – 13:30	Lunch
13:30 – 14:00	Hakka Tulou Forum Opening Ceremony
14:00 – 15:30	Workshop Session 1
15:30 – 16:00	Photo Taking of Forum Participants and Tea Break
16:00 – 18:00	Workshop Session 2
18:30 – 21:00	Banquet
October 30, 2011, Sunday	
08:30 – 10:00	Workshop Session 3
10:00 – 10:30	Tea Break
10:30 – 12:00	Workshop Session 4
12:00 – 13:30	Lunch
13:30 – 15:30	Workshop Session 5
15:30 – 16:00	Tea Break
16:00 – 18:00	Workshop Session 6
18:30 – 20:30	Dinner
October 31, 2011, Monday	
06:30 – 09:30	Journey to World Heritage Hakka Tulou Villages
09:30 – 12:00	Gaotou Villages
12:00 – 14:00	Lunch at Hukeng Town Special Field Session: Meeting Hakka Rammed Earth Masters
14:00 – 16:00	Hongkeng Village
16:00 – 17:30	Return Journey via Tianloukeng Village
17:30 – 20:30	Return Journey to XMU with a stop for dinner

Technical Program

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12:00 – 13:30	Lunch
Workshop Invited Lectures	
13:30 – 15:30	Session 1, Co-Chairs: Ray Liang and Paul Jaquin
13:30 – 13:54	Hakka Tulou Forum Opening Ceremony
	Invited Guests
13:54 – 14:18	“History Made for Tomorrow: Hakka Tulous”
	Richard Yelland , Curtis Birch Inc. USA
14:18 – 14:42	A History of Rammed Earth in Asia
	Paul Jaquin , Director of Earth Building UK
14:42 – 15:06	Nondestructive Evaluation of Historic Hakka Rammed Earth Structures
	Ray Liang , West Virginia University, USA
15:06 - 15:30	Contemporary Rammed Earth Construction and Research in North America
	Bly Windstorm , North America Rammed Earth Association, USA
15:30 – 16:00	Tea Break and Workshop Photo Taking
16:00 – 18:00	Session 2, Co-Chairs: Daniela Ciancio and Miao Pang
16:00 – 16:24	Environmental Assessment and Preservation for Fujian Hakka Villages
	Minoru Ueda , MU Design, Tokyo, Japan
16:24 – 16:48	Experimental Study of Cement Mortar - Steel Fiber Reinforced Rammed Earth Wall
	Miao Pang , Zhejiang University, China

16:48 – 17:12	Heaven and Earth In Tulou Design
	Keith Lowe , Tsung Tsin Association of Ontario, Canada
17:12 – 17:36	Use of Rammed Earth in Aboriginal Remote Communities of Western Australia: a Case Study on Sustainability and Thermal Properties
	Daniela Ciancio , University of Western Australia, Australia
17:36 - 16:00	Distinctions of Architectural Morphology Between Tubao and Tulou in Fujian
	Zhijian Dai , Xiamen University, China
18:30 – 21:00	Banquet
October 30, 2011, Sunday	
08:30 – 10:06	Session 3 , Co-Chairs: Shaosen Wang and Bly Windstorm
08:30 – 08:54	The Genes of Tulou: Preservation and Sustainable Development of Tulou
	Shaosen Wang , Xiamen University, China
08:54 – 09:18	Structural Responses of Hakka Rammed Earth Buildings under Earthquake Loads
	Hota Gangarao , West Virginia University, USA
09:18 – 09:42	Translational Research in Mechanics and Materials: Sustainability and Durability
	Ken P. Chong , George Washington University, USA
09:42 – 10:06	Sustainable Technology Research and Demonstration Center for Earth Structures
	Judy Ueda , MU Design, Tokyo, Japan
10:00 – 10:30	Tea Break
10:30 – 12:06	Session 4 , Co-Chairs: Ken Chong and Daniela Ciancio
10:30 – 10:54	An Overview of Some Current Recommendations on the Suitability of Soils for Rammed Earth
	Daniela Ciancio , University of Western Australia, Australia
	Paul Jaquin , Director of Earth Building UK
10:54 – 11:18	Erosion Damage of the Rammed Earth Wall of Fujian Earth Buildings Caused by the Wind-Driven Rain
	Xingqian Peng , Huaqiao University, China
11:18 – 11:42	Spatial Order and Typology of Hakka Dwellings
	Kazutoshi Katayama , Tokyo University of the Arts, Japan
11:42 – 12:06	Past, Present and Future of Fujian Yongding Tulou
	Yongding Tulou Administration , Fujian Yongding, China
12:06 – 13:30	Lunch

13:30 – 14:30	Session 5, Co-Chairs: Paul Jaquin and Bly Windstorm
13:30 – 13:54	Overview of Earth Building in Europe
	Paul Jaquin , Director of Earth Buildings UK
13:54 – 14:18	Overview of Technics of Rammed Earth Wall
	Cheng-Bin Zhou , Fuzhou University, China
14:18 – 14:42	Rammed Earth Construction Code and ASTM E2392
	Bly Windstorm , North America Rammed Earth Association, USA
14:42 – 15:06	Traditional Environmental Knowledge in Hakka Weilongwu: from the view of Anthropology of Landscape
	Hironao Kawai , Sun Yat-sen University, China
15:06 – 15:30	Announcement of the 4th Toronto Hakka Conference and Hakka Tulou Forum 2012: Putting Sustainability into Practice at, June 29 to July 1, 2012
	Keith Lowe , Tsung Tsin Association of Ontario, Canada
15:30 – 16:00	Tea Break
16:00 – 18:00	Session 6, Co-Chairs: Ying Lei and Hota Gangarao
	Roundtable Discussions and Programs Development
	<ul style="list-style-type: none"> • Success Stories and Lessons • Specifications, Codes and Standards • Challenges and Opportunities (Future Directions) • Collaborative Projects • Summary of Action Items
18:30 – 20:30	Dinner
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	Conclusion of the Workshop