

# The 4th International Conference on Calcined Clays for Sustainable Concrete (ICCCSC 2024) The Second Announcement May 15-18, 2024, Nanjing, China

Cement and concrete are the largest manufactured product on Earth, which have revolutionized the global built environment. While, the production of cement is characterized by high energy consumption and CO<sub>2</sub> emission, which accounts for 8% of the total carbon emissions around the world. Therefore, reducing CO<sub>2</sub> emissions and increasing materials efficiency throughout the cement value chain has become a major issue for the sustainable development. Globally, developing low-carbon and sustainable cement and concrete has become the urgent task of the industry recently.

Calcined clay-based cementitious materials have been attracting wide attention in the research of developing low-carbon cementitious materials recent years. Taking the most typical Limestone Calcined Clay Cement (LC<sup>3</sup>) as an example, compared to Portland cement, the clinker content of LC<sup>3</sup> can be reduced up to 50% by adding limestone and calcined clay. LC<sup>3</sup> also shows outstanding mechanical and durability properties, showcasing significant potential for widespread replacement of traditional Portland cement. Currently, LC<sup>3</sup> has gradually gained popularity and application in regions such as Latin America and South Asia.

The International Conference on Calcined Clay for Sustainable Concrete (ICCCSC) which has been held in Switzerland (Lausanne, 2015), Cuba (La Havana, 2017), India (New Delhi, 2019), has become an important academic event for low-carbon sustainable cement concrete. The 4<sup>th</sup> ICCSC will be held in Nanjing, to focus on low-carbon sustainable cement production, performance, environmental efficiency as well as other topics to be presented in seminars. It is expected to further promote the development of low-carbon cement and concrete materials in the world and the cooperation among countries, which will contribute to the large-scale application of low-carbon cement concrete and the sustainable development of human society.



Sinoma 中材国际



## The Second Announcement of ICCSC2024

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### Organizer:

The Chinese Ceramic Society

### Executive organizers:

Southeast University                      Sinoma International Engineering Co., Ltd.

University of Jinan                      Sobute New Materials Co., Ltd.

The Cement Branch of Chinese Ceramic Society

### Co-organizers:

State Key Laboratory of High Performance Civil Engineering Materials

Jiangsu Key Laboratory of Construction Materials

Jiangsu Collaborative Innovation Center of Advanced Construction Materials

### Sponsoring Organizers:

China Chapter of American Concrete Institute

China Chapter of RILEM

International Green Building Council

Nanjing Society of Engineers

### Honorary Chairs:

Prof. Changwen Miao, Academician of the Chinese Academy of Engineering,  
Southeast University

Prof. Karen Scrivener, Fellow of the Royal Academy of Engineering (FREng),  
EPFL

### Conference Chair:

Ruiping Gao, The Chinese Ceramic Society

Jiaping Liu, Southeast University

Tongbo Sui, Sinoma International Engineering Co., Ltd.

### Senior Advisers:

Duncan Herfort	Feng Xing	Fernando Martirena	Hui Li
Karen Scrivener	Peiyu Yan	Ravindra Gettu	Shuguang Hu
Xin Cheng	Yan Yao	Yongmo Xu	Zongjin Li

## Scientific Committee

### Chairs:

Karen Scrivener, EPFL, Switzerland

Tongbo Sui, Sinoma International Engineering Co., Ltd., China

Fernando Martirena, Central University of Las Villas, Cuba

Shashank Bishnoi, Indian Institute of Technology Delhi, India

### Members:

Caijun Shi	Cheng Yu	Christopher Leung	Duncan Herfort
Fazhou Wang	Feng Xing	Fernando Martirena	Franco Zunino
Geert De Schutter	Guillaume Habert	Guoqing Geng	Guowei Ma
Harald Justnes	Hongzhi Cui	Jianguo Han	Jiansheng Fan
Jing Yu	Jinyang Jiang	Jun Chang	Karen Scrivener
Kimberly Kurtis	Kyle Riding	Hui Li	Hui Li
Manu Santhanam	Maria Juenger	Marijana Serdar	Nicolas Roussel
Peiyu Yan	Pengkun Hou	Peter Arendt Jensen	Qingge Feng
Ravindra Gettu	Rongxin Guo	Shuguang Hu	Suping Cui
Thomas Matschei	Torben Gadt	Vanderley M. John	Viktor Mechtcherine
Wei Zheng	Wenhui Duan	Wensheng Zhang	Xiaodong Shen
Xin Cheng	Yan Yao	Yongmo Xu	Yun Bai
Zhenyu Huang	Zhonghe Shui	Zongjin Li	

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## Conference topics

1. Influence of processing on reactivity of calcined clays
2. Influence of clay mineralogy on reactivity
3. LC2 SCM: hydration, durability, and performance
4. Portland-calcined clay-limestone systems: hydration, durability, and performance
5. Calcined clay-alkali systems: hydration, durability, and performance
6. Calcined clay-new blends
7. Limestone cement
8. Life cycle analysis, economics and environmental impact of use of calcined clays in cement and concrete
9. Field applications
10. Rheology of calcined clay systems
11. Other related topics

## Conference Schedule

The conference will be held from May 15 to 18.

	15 May		16 May	17 May	18 May
Morning	Doctoral course		Opening ceremony	Parallel session	On-site visit to the floating calcination equipment
			Plenary session		
	Lunch		Buffet lunch	Buffet lunch	
Afternoon	Doctoral course	Registration	Parallel session	Plenary session	
				Closing ceremony	
Evening	Buffet dinner		Conference banquet	Buffet dinner	
Location	Jiulonghu Campus, Southeast University	Holiday Inn Nanjing Qinhuai South, Nanjing, China	Holiday Inn Nanjing Qinhuai South, Nanjing, China	Holiday Inn Nanjing Qinhuai South, Nanjing, China	Zhenjiang Sobute New Material Co., Ltd. Zhenjiang Jurong

## Doctoral Courses

**Basic Information:** The doctoral course will introduce the hydration mechanisms of Portland cement and Limestone Calcined Clay Cement (LC<sup>3</sup>), the preparation process of LC<sup>3</sup>, performance optimization, environmental impact assessment, and case studies of its application in various engineering projects, to help participants establish a fundamental understanding of the future green development of cement-based materials.

**Time:** 09:00~16:30, May 15, 2024

**Venue:** Classroom-j1-311, Southeast University, Jiulonghu Campus

2024.5.15		Session Name	Presenter
AM	09:00 ~ 09:45	Context and introduction	Prof. Karen Scrivener, EPFL
	10:00 ~ 10:45	Hydrates	Prof. Karen Scrivener, EPFL
	10:45 ~ 11:15	<b>Break</b>	
	11:15 ~ 12:00	Hydration Mechanisms	Prof. Karen Scrivener, EPFL
	12:00 ~ 13:00	<b>Lunch (Meal tickets provided)</b>	
PM	13:00 ~ 13:45	LC <sup>3</sup> Hydration Mechanism	Prof. Franco Zunino, ETH Zurich
	14:00 ~ 14:45	Clay Calcination	Prof. Fernando Martirena, UCLV
	15:00 ~ 15:45	LC <sup>3</sup> Concrete and Durability	Prof. Shashank Bishnoi, IIT Delhi
	16:00 ~ 16:30	<b>Q&amp;A and Buffer</b>	



*Participation & Registration*



*(ds1370035933)  
Course Weixin Group*

## Contact Information

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\* Please fill the booking form and send to [iccsc2024@sobute.com](mailto:iccsc2024@sobute.com)

## Keynote speech

Keynote speaker	Topic
<b>Changwen Miao</b> Southeast University China	Several Issues in the Development of Cement Concrete Technology
<b>Karen Scrivener</b> EPFL Switzerland	Recent Progress of Limestone Calcined Clay Cement (LC3)
<b>Jiaping Liu</b> Southeast University China	Development and Application of Low Carbon Cementitious Materials Based on Calcined Kaolinite Tailings in China
<b>Feng Xing</b> Jinan University China	TBD
<b>Hui Li</b> Harbin Institute of Technology China	Super Performance of Cement-Based Material Through Super High Pressure-Induced Crystallization
<b>Caijun Shi</b> Hunan University China	Quantifying the Physical and Chemical Effects of Limestone Powder in Cement-Based Materials
<b>Nicolas Roussel</b> Gustave Eiffel University France	Packing optimization of mineral binders, the underlying physics, the measurement protocols and the prediction models.
<b>Fernando Martirena</b> Central University of Las Villas, Cuba	Challenges in the Industrial Scaling Up of the Production of LC3
<b>Shashank Bishnoi</b> IIT Delhi India	Testing the Quality of Calcined Clays: Keeping It Simple!
<b>Thomas Matschei</b> RWTH Aachen University Germany	A Fresh Look on the Early Age Properties of Calcined Clay Limestone Cements
<b>Yun Bai</b> University College London United Kingdom	Using Waste-Derived Calcined Clay as an Alternative Supplementary Cementitious Material - A UK Experience
<b>Ruben Snellings</b> KU Leuven Belgium	Waste or By-Product Clays as Supplementary Cementitious Material Resource

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## Invited speech

Invited speaker	Topic
<b>Claude Lorea</b>	Calcined Clays in the Context of GCCA Net Zero Roadmap and Accelerator Framework - State of Play and Future Outlook
<b>Franco Zunino</b>	Breaking Through the Concrete Decarbonization Paradigm with Fundamental Cement Science, Concrete Technology and Calcined Clays
<b>Guoqing Geng</b>	Sustainable Concreting in Singapore with Waste and Low-grade Material
<b>Harald Justnes</b>	Performance of Mortar with Calcined Clay After Several Years of Moist Storage
<b>Johann Plank</b>	On the Behavior of Individual Meta Clays from Illite, Smectite, Kaolinite and Muscovite in Calcined Clay Blended Cements and Their Interaction with PCE Superplasticizers
<b>Jørgen Skibsted</b>	Interactions Between Polycarboxylate (PCE) Superplasticizers and Calcined Clays Studied by Multinuclear NMR Spectroscopy
<b>Lei Lei</b>	Comprehensive Overview of Interactions Between Calcined Clays and Polycarboxylate Superplasticizers
<b>Qingge Feng</b>	Preparation of LC3 Cementitious Material by Synergistic Bayer Red Mud and Electrolytic Manganese Residue
<b>Yu Chen</b>	3D Printable LC3: Good, Bad, Possibilities and Challenges
<b>Zhenyu Huang</b>	The Anti-Chloride Ion Penetration and Anti-Carbonation Properties of LC3-Based Ultra-Lightweight Cement-Based Composite Materials

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## Registration

Registration online via <https://icccsc2024.ceramsoc.com>

### Registration fees

Type	Early-bird Before March 31 <sup>st</sup> , 2024	Regular
Regular	EUR 350	EUR 500
Student	EUR 200	EUR 300

\*Registration includes: abstract (program) book, welcome reception, banquet dinner, coffee breaks, and lunches during the conference.

### Method of Payment

#### 1. Bank Transfer

Beneficiary: *The Chinese Ceramic Society*

Beneficiary Bank: *Bai Wan Zhuang Banking Office, Industrial and Commercial Bank of China*

Bank Address: *No.15, San Li He Road, Haidian District, Beijing 100037, P.R. China.*

Account No.: *0200001409014435189*

Swift Code: *ICBKCNBJBJM*

※ Please write " ICCSC + name " in the place of "Message".

#### 2. On-site Payment

※ Early-bird registrants can enjoy the early-bird price when paying on-site by credit card or cash.

## Conference and Hotel Venue

### Holiday Inn Nanjing Qinhuai South, Nanjing, China

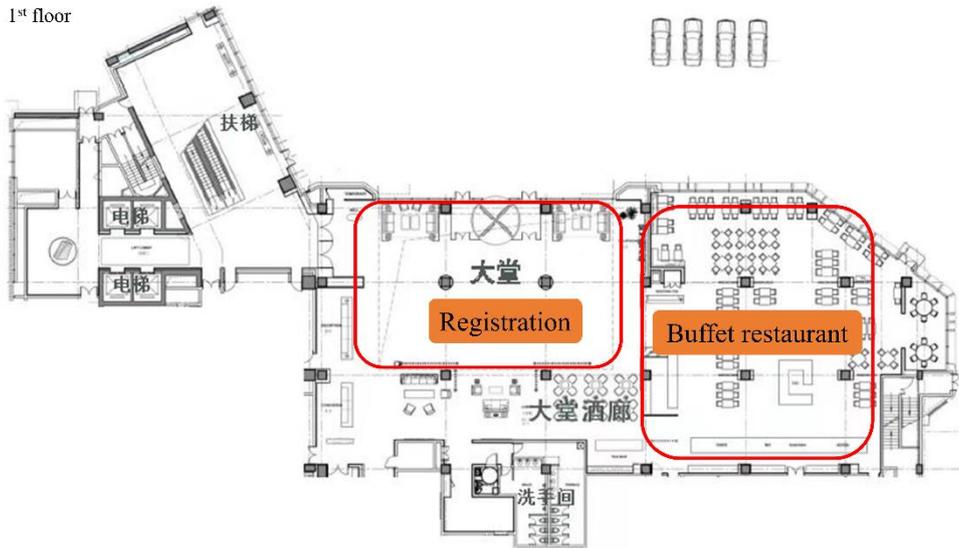
Address: *NO.21 Mozhou East Road, Jiangning District, Nanjing, 211111*

Room rate: 500 CNY per night

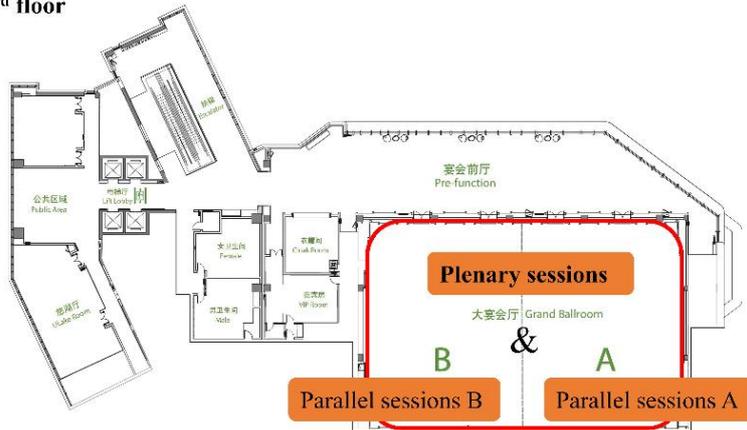
Booking: *Please fill the booking form and send to [icccsc2024@sobute.com](mailto:icccsc2024@sobute.com)*

# Floor Plan

1<sup>st</sup> floor



3<sup>rd</sup> floor



5<sup>rd</sup> floor



## The Second Announcement of ICCSC2024

### Organizing Committee

#### Chairs:

Zhanping Jin      Xin Cheng

#### Vice Chair:

Fu Tan      Jinyang Jiang      Jinxiang Hong      Peitao Xu

#### Members:

Guangcheng Long      Wei She      Jiayuan Ye      Pengkun Hou  
Junmei Hu      Xiaoxin Fu      Cheng Yu      Xiaohui Zeng

### Contact Information

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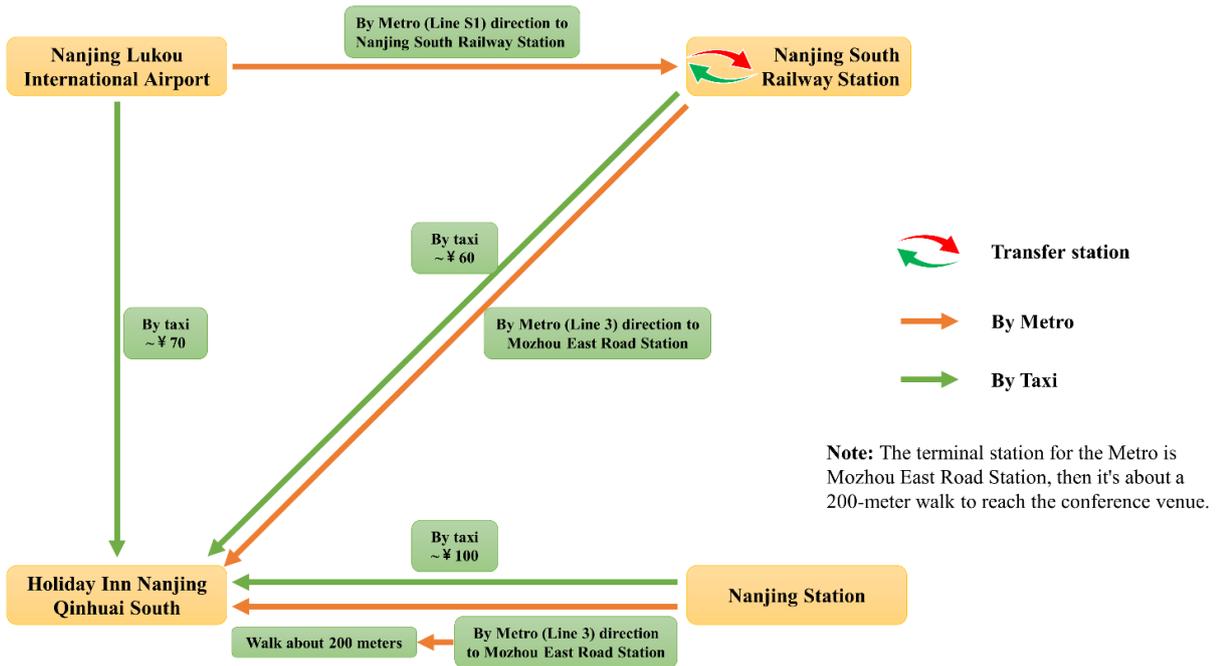
**website:** <https://icccsc2024.ceramsoc.com>

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The Chinese Ceramic Society  
2024.4.24



## Traffic Routes



### Nanjing Lukou International Airport - Holiday Inn Nanjing Qinhuai South

1. Online car or taxi

The 23-kilometer journey takes about 25 minutes and costs about 70 RMB.

2. Metro (transfer required)

Take Metro Line S1 to Nanjing South Railway Station, transfer to Metro Line 3 to Mozhou East Road Station and walk about 200 meters.

### Nanjing South Railway Station – Holiday Inn Nanjing Qinhuai South

1. Online car or taxi

The 18-kilometer journey takes about 20 minutes and costs about 60 RMB.

2. Metro

Take Metro Line 3 to Mozhou East Road Station and walk about 200 meters.

### Nanjing Station – Holiday Inn Nanjing Qinhuai South

1. Online car or taxi

The 30-kilometer journey takes about 30 minutes and costs about 100 RMB.

2. Metro

Take Metro Line 3 to Mozhou East Road Station and walk about 200 meters.

# The 4th International Conference on Calcined Clays for Sustainable Concrete (ICCCSC 2024)

The Second Announcement  
May 15-18, 2024, Nanjing, China

## The 4<sup>th</sup> International Conference on Calcined Clays for Sustainable Conference ( ICCSC2024 ) *Hotel Reservation Form*

Information					
Name		Gender		Nationality	
Affiliation					
Telephone					
Email					
Hotel Reservation					
Room type	<input type="checkbox"/> Single room		<input type="checkbox"/> Double room		
Duration of stay	Arrival:		Departure:		
Special requirement	If you share a double room, please note the roommate information				
Pick-up service (Optional)					
Means	<input type="checkbox"/> By flight		<input type="checkbox"/> By train ( <input type="checkbox"/> Nanjing <input type="checkbox"/> Nanjing South)		
Flight No./ Train No.					
Arrival time/date					

Please send the form to [icccsc2024@sobute.com](mailto:icccsc2024@sobute.com)