Program of the 19th International Conference on Engineering of Complex Computer Systems (ICECCS 2014)
August 4-7, 2014, Tianjin, China
Message from the Chairs

The engineering of complex computer systems has brought to the frontline the urgent need to investigate the theories, methods, and tools that can construct high quality software for complex systems.

Welcome to ICECCS 2014, the Nineteenth International Conference on Engineering of Complex Computer Systems and welcome to Tianjin! ICECCS 2014 aims to continue the tradition to advance the understanding and expertise in the following areas:

• System Modeling and Verification
• System Evaluation
• Real-time, Hybrid and Embedded systems
• Validation, Verification, and Testing
• Metrics, Measurements, and Analysis
• Methods and Theories
• Automation and Tools

This year's conference has a strong technical program. In addition to 3 keynote addresses by Mike Hinchey, Shaoying Liu and Zhenhua Duan, it also includes a selection of rigorously refereed papers presented in the regular paper sessions and short paper sessions. The Program Committee has received 93 submissions from 27 countries and each paper was reviewed by at least 3 referees. We chose 17 full papers and 12 short papers as the result of intensive discussions held among the PC members.
We would like to thank Tianjin University, National University of Singapore, Nanyang Technological University, Tianjin key Laboratory of Cognitive Computing and Application Singapore University of Technology & Design and IPAL lab as co-organisations. Special thanks go to many individuals who have contributed to the success of this conference. We thank the authors for sharing their ideas with us, the reviewers for providing valuable feedback, and all the PC members for taking time from their busy schedules to support this conference. Special thanks also go to various organization committee members/chairs and special guests: Xiaohong Li, Zhenhua Duan, Yuanfang Li, Yang Liu, Jun Sun, Xin Peng, Guangquan Xu, Jing Hu, Alin Stefanescu, Jing Xu, Zhenkai Liang, Jun Pang, Chong Tian, Xiaofei Xie, Gang Shen, Xiaoru Li, Hongbin Pei and Xiaofei Wu.

Thank you for attending ICECCS 2014. We hope that you enjoy the program and have a great stay in Tianjin!

Étienne André and Lei Zhang
Program Co-Chairs

Jin Song Dong and Zhiyong Feng
General Co-Chairs
Content

- ICECCS 2014 Agenda
- ICECCS 2014 Conference Location
- Transportation
- Banquet and Reception Info
- ICECCS 2014 Program
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 - 22:00</td>
<td>ON-SITE REGISTRATION</td>
</tr>
<tr>
<td>08:30 - 09:00</td>
<td>BRIEFING</td>
</tr>
<tr>
<td>09:00 - 10:00</td>
<td>KEY NOTE 1 (Mike Hinchey)</td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>TEA BREAK</td>
</tr>
<tr>
<td>10:30 - 12:00</td>
<td>VERIFICATION AND VALIDATION</td>
</tr>
<tr>
<td>12:00 – 13:30</td>
<td>LUNCH</td>
</tr>
<tr>
<td>14:00 - 16:00</td>
<td>SECURITY &amp; FAULT-TOLERANCE</td>
</tr>
<tr>
<td>16:00 - 16:30</td>
<td>TEA BREAK</td>
</tr>
<tr>
<td>16:30 - 17:30</td>
<td>SHORT PAPERS SESSION 1</td>
</tr>
<tr>
<td>17:30 - 18:30</td>
<td>DINNER</td>
</tr>
<tr>
<td>19:00</td>
<td>HAIHE RIVER TOUR</td>
</tr>
<tr>
<td>09:00 - 10:00</td>
<td>KEY NOTE 2 (Zhenhua Duan)</td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>TEA BREAK</td>
</tr>
<tr>
<td>10:30 - 12:00</td>
<td>ADAPTIVE, SELF-MANAGING AND MULTI-AGENT SYSTEMS</td>
</tr>
<tr>
<td>12:00 – 13:30</td>
<td>LUNCH</td>
</tr>
<tr>
<td>14:00 - 16:00</td>
<td>SOFTWARE ENGINEERING AND REFACTORING</td>
</tr>
<tr>
<td>16:00 - 16:30</td>
<td>TEA BREAK</td>
</tr>
<tr>
<td>16:30 - 17:30</td>
<td>SHORT PAPERS SESSION 2</td>
</tr>
<tr>
<td>18:30</td>
<td>BANQUET</td>
</tr>
<tr>
<td>09:00 - 10:00</td>
<td>KEY NOTE 3 (Shaoyin Liu)</td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>TEA BREAK</td>
</tr>
<tr>
<td>10:30 - 12:00</td>
<td>REAL-TIME, HYBRID AND EMBEDDED SYSTEMS</td>
</tr>
<tr>
<td>12:00 – 13:30</td>
<td>LUNCH</td>
</tr>
<tr>
<td>14:00 - 15:00</td>
<td>SHORT PAPERS SESSION 3</td>
</tr>
<tr>
<td>15:00 - 15:30</td>
<td>TEA BREAK</td>
</tr>
<tr>
<td>15:30 - 16:30</td>
<td>SHORT PAPERS SESSION 4</td>
</tr>
<tr>
<td>16:30 - 17:30</td>
<td>END OF THE CONFERENCE</td>
</tr>
<tr>
<td>17:30 - 19:00</td>
<td>DINNER</td>
</tr>
</tbody>
</table>

ICECCS Conference Location

Location: Tiancai Hotel. (The conference room - #409)

The map of Tiancai Hotel:
Transportation

FROM TIANJIN AIRPORT TO TIANCAI HOTEL

1. Tianjin Airport is 32.8 kilometers away from the hotel, about 40 minutes. Taking a taxi is about 70 RMB to 80 RMB.

2. You can also take the Airport Bus to Nanjing Road and then take other buses (NO.693, NO.631 and NO.808) to arrive the hotel.

FROM TIANJIN RAILWAY STATION TO TIANCAI HOTEL

1. Tianjin Railway Station is 13.6 kilometers away from the hotel, about 25 minutes. Taking a taxi is about 30 RMB.

2. You can also take the Subway Line 3 and then take the NO.831 bus to arrive the hotel.

FROM TIANJIN SOUTU RAILWAY STATION TO TIANCAI HOTEL

1. Tianjin South Railway Station is 10.2 kilometers away from the hotel, about 19 minutes. Taking a taxi is about 21 RMB.

2. Having a suggestion for participants who come from Shanghai, Hangzhou and Ningbo to take high-speed rail to Tianjin, that is more convenient.

FROM TIANJIN WEST RAILWAY STATION TO TIANCAI HOTEL

Tianjin West Railway Station is 12.2 kilometers away from the hotel, about 16 minutes. Taking a taxi is about 27 RMB.

Come to Tiancai Hotel

Please refer to http://cs.tju.edu.cn/iceccs/2014/venue.jsp
HAIHE RIVER TOUR

Date: 19:00, August 5, 2014
Location: Tianjin Railway Station Pier.
Address: Zhang Zizhong Road, Hebei, Tianjin.
Transportation: Shuttle bus will leave at 18:40 from conference place to Tianjin Railway Station Pier by the Haihe River for sightseeing.

BANQUET

Date: 18:30, August 6, 2014
Location: Goubuli Steamed Bread (Water Park Shop).
Address: Jinlong apartment No. 16, ShuiShang North Road, Nankai, Tianjin.
Transportation: Shuttle bus will leave at 17:45 from conference place to Goubuli Steamed Bread.
ICECCS 2014 Program

Day 1 (Monday, 4th August, 2014)

On-site registration: 09:00 - 22:00

Day 2 (Tuesday, 5th August, 2014)

Briefing: 08:30 - 09:00 (Chair: Jinsong Dong)

Keynote: 09:00 - 10:00

Evolving Critical Systems

Speaker: Mike Hinchey, University of Limerick, Ireland

Coffee and Tea Break: 10:00 - 10:30

Verification and Validation: 10:30 - 12:00

(Session Chair: Étienne André)

From TiMo to Event-B: event-driven timed mobility. Gabriel Ciobanu, Thai Son Hoang and Alin Stefanescu.


An Extended UML Method for the Verification of Security Protocols. Gang Shen, Xiaohong Li, Ruitao Feng, Guangquan Xu and Jing Hu.
Lunch: 12:00 - 13:30

Security & Fault-Tolerance: 14:00 - 16:00 (Session Chair: Yang Liu)


Automatic Defect Categorization Based On Fault Triggering Conditions. Xin Xia, David Lo, Xinyu Wang and Bo Zhou.

Understanding Complex Binary Loading Behaviors. Ting Dai, Mingwei Zhang, Roland Yap and Zhenkai Liang.

Design and Analysis of Security Attacks against Critical Smart Grid Infrastructures. Byungho Min and Vijay Varadharajan.

Coffee and Tea Break: 16:00 - 16:30

Short Papers Session 1: 16:30 - 17:30 (Session Chair: Alin Stefanescu)


Dinner: 17:30 - 18:30

Haihe River Tour: 19:00
Day 3 (Wednesday, 6th August, 2014)

Keynote: 09:00 - 10:00 (Chair: Zhiyong Feng)

Modeling and Verification of Concurrent System with MSVL

Speaker: ZhenHua Duan, Xidian University, China

Coffee and Tea Break: 10:00 - 10:30

Adaptive, Self-Managing and Multi-Agent Systems: 10:30 - 12:00

(Session Chair: Jing Xu)

A Reference Framework for the Automated Exploration of Web Applications. Gabriel Le Breton, Nicolas Bergeron and Sylvain Hallé.


Lunch: 12:00 - 13:30

Software Engineering and Refactoring: 14:00 - 16:00

(Session Chair: Zhenkai Liang)

Clause Replication and Reuse in Incremental Temporal Induction. Liangze Yin, Fei He, Ming Gu and Jiaguang Sun.

Generating SystemC Implementations for Clock Constraints specified in UML/MARTE CCSL. Judith Peters, Robert Wille and Rolf Drechsler.


Coffee and Tea Break: 16:00 - 16:30

Short Papers Session 2: 16:30 - 17:30 (Session Chair: Xin Peng)

Behavior Gaps and Relations between Operating System and Applications on Accessing DRAM. Beilei Sun, Li Xi, Zhu Zongwei and Xuehai Zhou.


Banquet: 18:30
Keynote: 09:00 - 10:00 (Chair: Zhiyong Feng)


Speaker: ShaoYing Liu, Hosei University, Japan

Coffee and Tea Break: 10:00 - 10:30

Real-Time, Hybrid and Embedded Systems: 10:30 - 12:00

(Session Chair: Jun Sun)


Exact and Efficient Temporal Steering of Software Behavioral Model Inference. Sylvain Lamprier, Tewfik Ziadi, Nicolas Baskiotis and Lom Messan Hillah.

A Refinement Calculus for Hybrid Systems. Bin Gu and Liang Zou.

Lunch: 12:00 - 13:30

Short Papers Session 3: 14:00 - 15:00 (Session Chair: Jun Pang)


Coffee and Tea Break:  15:00 - 15:30

Short Papers Session 4:  15:30 - 16:30  (Session Chair: Chong Tian)


Model Checking Rate-monotonic Scheduler with TMSVL. Jin Cui, Zhenhua Duan and Cong Tian.

Model-checking based Approaches to Parameter Estimation of Gene Regulatory Networks. Andrzej Mizera, Jun Pang and Qixia Yuan.

End of the Conference:  16:30 - 17:30

Dinner:  17:30 - 19:00