

ICFEM 2025 Program (Hangzhou, GMT+8)

Day 0 - November 10, 2025

8:30 - 17:30

Registration

9:00 - 12:00

Tutorial by Prof. Thiagarajan Pazhamaneri Subramanian

Day 1 - November 11, 2025

8:30 - 9:00

Registration & Welcome Coffee

9:00 - 10:00

Opening Keynote 1 by Prof. Jifeng He

10:00 - 10:30

Coffee Break

Session 1: Formal Verification of Security and Cryptographic Protocols

Chair: TBD

10:30 - 12:30

[3] *Formal Verification of Physical Layer Security Protocols for Next-Generation Communication Networks*

Kangfeng Ye, Roberto Metere, Jim Woodcock and Poonam Yadav

[28] *Formal Construction of Threat Detections from Attack Trees*

Dumitru Bogdan Prelipcean, Catalin Dima and Daniele Varacca

[37] *ZK-ProVer: Proving Programming Verification in Non-Interactive Zero-Knowledge Proofs*

Haoyu Wei, Jingyu Ke, Ruibang Liu and Guoqiang Li

[45] *Formal Modeling and Verification of Blockchain Consensus Protocols: A Case Study on ChainMaker*

Minfan Xu, Shuo Zhou, Xian Xu and Huan Long

12:30 - 14:00

Lunch Break

14:00 - 15:00

Keynote 2 by Prof. Jim Woodcock

15:00 - 15:30

Coffee Break

Session 2: LLMs and Formal Methods

Chair: TBD

15:30 - 17:30

[4] *Automata-Based Steering Method for Diverse Structured Generation of Large Language Models*

Xiaokun Luan, Zeming Wei, Yihao Zhang and Meng Sun

[8] *LLM-SYM: Integrating Symbolic Methods and Large Language Models for Automated Theorem Proving*

Yifan Wu, Yanhong Huang and Jianqi Shi

[11] *Formalizing Requirements into Dafny Specifications with LLMs*

Yi-Han Lu, Xue-Yang Zhu, Wenhui Zhang and Rongjie Yan

[36] *A Test-Driven Approach for Refining Use Case Descriptions of Software Requirements with LLMs*

Haibo Li, Lixiao Zheng and Qihang Cai

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| Day 2 - November 12, 2025 | |
| 9:00 - 10:00 | Keynote 3 by Mariëlle Stoelinga |
| 10:00 - 10:30 | Coffee Break |
| Session 3: Runtime Verification, Control, and Robotics | |
| <i>Chair: TBD</i> | |
| 10:30 - 12:00 | [10] <i>Neural-Symbolic System Control Adjustment Based on Runtime Verification</i> Hongxu Zhu, Wanwei Liu and Ji Wang |
| | [9] <i>Modeling and Analysis of Cyber-Physical Systems in the Hybrid π-Calculus Using Extended Sequence Diagrams</i> Xiong Xu, Jixiang Miao, Shuling Wang and Jean-Pierre Talpin |
| | [65] <i>Formal Modelling of Fault Tolerant Robotic Missions</i> Elena Troubitsyna |
| | Lunch Break |
| 12:00 - 13:30 | |
| Session 4: Program Analysis and Software Reliability | |
| <i>Chair: TBD</i> | |
| 13:30 - 15:30 | [18] <i>Detecting Vector Container Errors in C++ Programs via Abstract Interpretation</i> Liusiyu Liu, Chen Liqian, Fan Guangsheng, Yin Banghu, Huang Chun and Wang Ji |
| | [41] <i>Synthesizing Loops from Linear Ranking Functions</i> Rui-Juan Jing, Yaru Yuan, Yuxing Cai, Yi Li and Changbo Chen |
| | [25] <i>MetaLogicz Robustness Evaluation of Text-to-Image Models Using Logically Equivalent Prompts</i> Yifan Shen, Yangyang Shu, Hye-young Paik and Yulei Sui |
| | [48] <i>Model-based test case generation from UML sequence diagrams using extended finite state machines</i> Yifan Shen, Yangyang Shu, Hye-young Paik and Yulei Sui |
| 15:30 - 16:00 | Coffee Break |
| Session 5: SMT and Quantitative Verification | |
| <i>Chair: TBD</i> | |
| 16:00 - 17:45 | [60] <i>Avoiding Larger Conflict Regions in CDCL-Style Methods for Solving SMT-NRA</i> Xinpeng Ni, Tianyi Ding and Bican Xia |
| | [61] <i>Formal Modeling of Reinforcement Learning Systems with SMT</i> Tianyi Ding, Yuxin Lin and Meng Sun |
| | [64] <i>Towards High-Level SMT Program Modeling: Bounded Integers, Simplified Structs, and Metaprogramming</i> Xiangyu Li |
| | [56] <i>Quantitative Verification for Temporal Properties of Massive Linear Systems</i> Qing Liu, Yuntao Li, Sung Woo Choi, Luan Viet Nguyen and Hoang-Dung Tran |
| Conference Banquet 🍷 | |
| 18:30 - 19:00 | Location: Jinxi Hotel |
| 19:00 - 20:00 | Cocktail Reception |
| | Dinner |
| | Awards Ceremony |
| 20:00 - 20:30 | Best Paper Awards Presentation |
| | Recognition of Outstanding Contributions |
| | Announcement of ICFEM 2026 Location and Dates |
| 20:30 - 21:00 | Networking and Celebration |

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| Day 3 - November 13, 2025 | |
| 9:00 - 10:00 | Keynote 4 by Yongwang Zhao |
| 10:00 - 10:30 | Coffee Break |
| Session 6: Logic, Automata, and Concurrent Systems | |
| Chair: TBD | |
| 10:30 - 12:30 | [22] <i>BCCIC3: Batch Clause Construction Enhanced Generalization in IC3</i> Yi Chen, Liangze Yin, Xinyi Gong, Ji Wang and Ting Wang |
| | [42] <i>Modeling and Verifying Concurrent Reactive Systems Using Separation Logic</i> Huan Sun, David Sanán, Jun Sun and Wenhai Wang |
| | [54] <i>A Unified Method to Efficiently Verify Opacity of Discrete-Timed Automata</i> Julian Klein, Kuize Zhang and Sabine Glesner |
| | [67] <i>Specification and Verification of Multi-Clock Systems Using a Temporal Logic with Clock Constraints</i> Yuanrui Zhang, Frederic Mallet, Min Zhang and Zhiming Liu |
| 12:30 - 14:00 | Lunch Break |
| 14:00 -15:30 | West Lake Hiking Tour |
| End | |

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| Font | GoogleSans18pt-Regular | |
| Legends | | Keynotes |
| | | Invited Papers |
| | | Regular Papers |
| | | Doctoral Symposium Papers |
| | | Journal First Papers |