

OPERA

2025



3rd Workshop on OPtimization for Embedded and ReAl-time systems (OPERA)

co-located with the 46th IEEE Real-Time
Systems Symposium (RTSS)

Sanjoy Baruah

Marion Sudvarg



WashU

OPERA

2025

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Enrico Bini



Pontus Ekberg



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Mario Günzel

TU Dortmund, Germany

Binqi Sun

TU Munich, Germany

4 Submitted Papers

1 Withdrawn

4 Invited Talks

20 Minute Talks

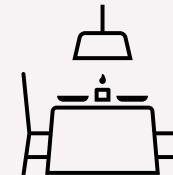
10 Minutes for Guided Discussion

7 Discussants

Program

- **8:45 – 9:15: Registration**
- **9:15 – 10:30: Welcome and Session 1: “Robustness and Verification.”**
 - 9:30 – 10:00 Invited Talk:
“Mastering Uncertainty: Optimizing Real-Time Systems for Robustness and Resilience.”
Speaker: Alessandro Biondi, Discussant: Enrico Bini.
 - 10:00 – 10:30 Paper:
“Verification-Driven Scenario Optimization Across a Co-Simulation Continuum for AV Certification.”
Authors: Kurt Wilson, Danjue Chen, Zhishan Guo, George List and Frank Mueller.
Speaker: Frank Mueller, Discussant: Federico Aromolo.
- **10:30 – 11:30: Extended Coffee Break**
- **11:30 – 12:30: Session 2: “Application-Focused Optimization.”**
 - 11:30 – 12:00 Invited Talk: “Timing Analysis and Optimization of Quantum Computing Systems.”
Speaker: Albert Cheng, Discussant: Frank Mueller.
 - 12:00 – 12:30 Paper: “MIRAGE: MILP-Based Block Grouping for Real-Time Signal Processing.”
Authors: Tiancheng He and Bryan C. Ward, Speaker: Tiancheng (Simmon) He, Discussant: Mario Günzel.

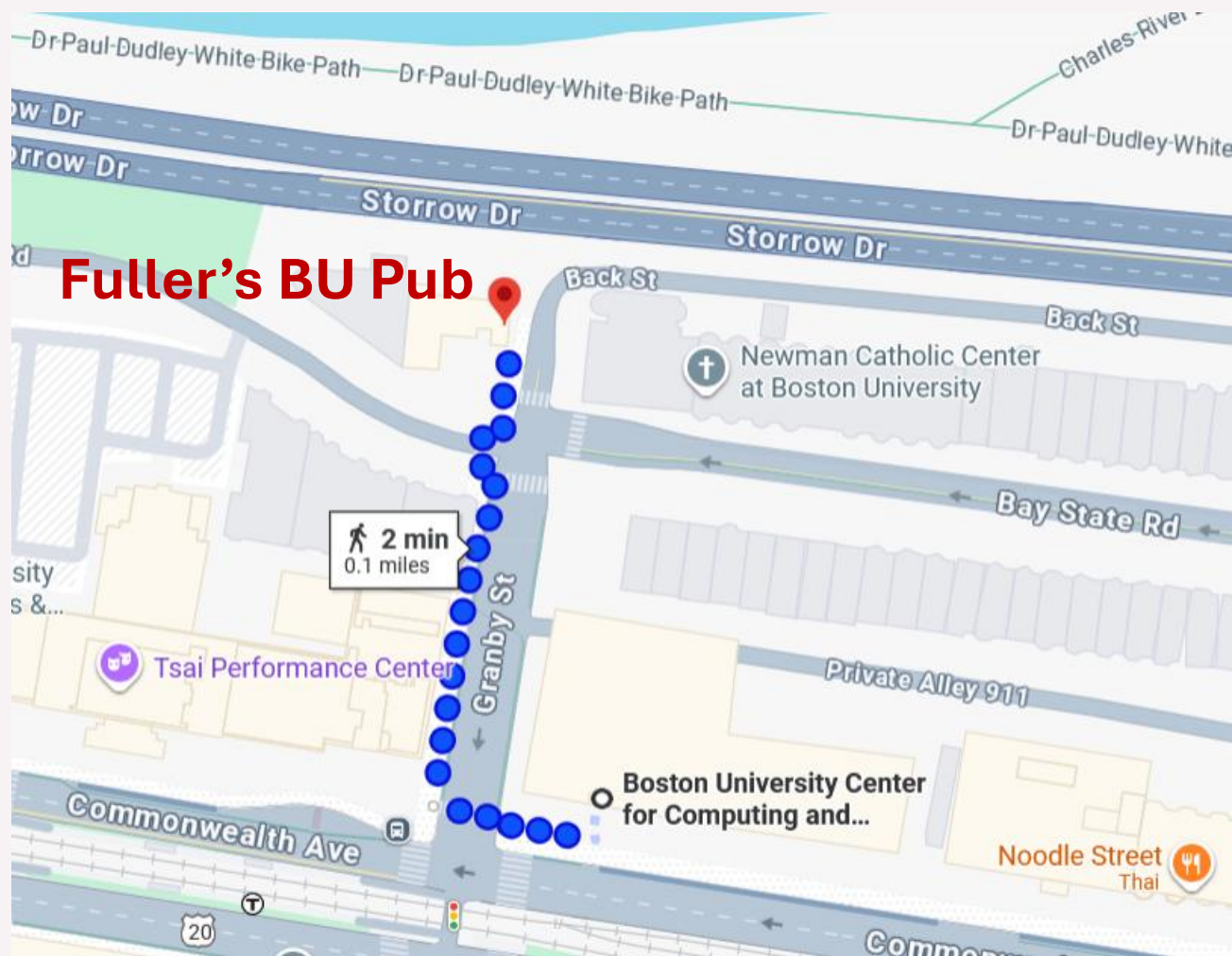
12:30 – 14:00: Lunch!



Program

- **14:00 – 15:30: Session 3: “Scheduling and Resource Management.”**
 - 14:00 – 14:30 Invited Talk: “Deep Reinforcement Learning for Real-Time Resource Management.”
Speaker: Marco Caccamo, Discussant: Albert Cheng.
 - 14:30 – 15:00 Paper: “Priority Point Exploration Using MBO.”
Authors: Minh Duy Truong, Junjie Shi, Jian-Jia Chen, Jörg Rahnenführer and Mario Günzel.
Speaker: Mario Günzel, Discussant: Bryan Ward.
 - 15:00 – 15:30 Invited Talk: “Optimization over Task Periods with Exact Schedulability Constraints.”
Speaker: Enrico Bini, Discussant: Marion Sudvarg.
- **15:30 – 16:00: Coffee Break.**
- **16:00 – 17:00: Open Discussion.**
- **17:00 – 17:30: Closing Remarks and Workshop Feedback.**

Diversity and First-Timer Reception



Bring your ID!

1. **Introduction** of first-time participants
2. **Ask-Me-Anything:** Panel of senior researchers. Ask the questions you like on their careers, life or research interests.
3. **A not that real-time contest:** If time allows it, then a building-in-paper contest is organized under constrained resources.

OPERA Website



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OPERA Post-Event Survey

