



## Forum on specification & Design Languages

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### • Location

FDL 2020 conference will be held in Kiel, Germany. Kiel is the capital city in the northern German state of Schleswig-Holstein. Further information:

<http://fdl-conference.org/>

### • Welcome Reception

We kindly invite all participants to the Welcome Reception on Tuesday, September 15, at 6:00 pm, that will be held in conference main menu.

### • Social Event

The social event will be a cruise aboard the historic schooner TWISTER at Kiel-Blücherbrücke, followed by an S&B Dinner at "Schöne Aussichten", Düsternbrooker Weg 16, 24105 Kiel.

- 13:00: boarding "TWISTER" at Kiel-Blücherbrücke, return around 19:00
- 19:15: Dinner at "Schöne Aussichten", Düsternbrooker Weg 16, 24105 Kiel



Kiel University  
Christian-Albrechts-Universität zu Kiel



IEEE



UNIVERSITÀ  
di VERONA  
Dipartimento  
di INFORMATICA

SCHEIDT & BACHMANN



15.09  
TUESDAY

16.09  
WEDNESDAY

17.09  
THURSDAY

Time	15.09 TUESDAY	16.09 WEDNESDAY	17.09 THURSDAY
8:00	Registration		
8:30	Opening Remarks	Keynote 2: Manuel Serrano	Keynote 3: HaukeFuhrmann
9:00	Session 1 Models of Computation	Session 4 Hardware and Resource Management	Session 5 Machine Learning for code: Representations, analysis and optimization
9:30			
10:00	Coffee Break	Coffee Break	Coffee Break
10:30			
11:00	Session 2 Synchronous Programming	Panel: Hybrid System Design: from Requirements to Models	Tutorial 2: A SystemC-Based Scheme for Fault Injection
11:30			
12:00	Lunch	Moving to Social Event	Lunch
12:30			
13:00	Session 3 Theory & Control	Social Event	Session 6 System-Level Design and Verification with SystemC- AMS
13:30			
14:00	Coffee Break	Coffee Break	Closing Remarks & Best Paper Award
14:30			
15:00	Tutorial 1 Model-Driven Engineering of Technology Roadmaps	Social Event	Closing Remarks & Best Paper Award
15:30			
16:00	Keynote 1: Edward Lee	Social Event	Closing Remarks & Best Paper Award
16:30			
17:00	Teasers for PhD/Work in progress posters	Social Event	Closing Remarks & Best Paper Award
17:30			
18:00	Poster Presentation / Welcome Reception	Social Event	Closing Remarks & Best Paper Award
18:30			
19:00	Dinner	Dinner	Dinner

September 15-17, 2020  
Kiel, Germany



Final  
Program





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September 15-17, 2020 | Kiel Germany

## Tuesday 15

- 08:00 AM–08:30 AM **Registration**
- 08:30 AM–09:00 AM **Opening Remarks**
- 09:00 AM–10:30 AM **Session 1**
  - **Models of Computations**  
(Chair: **Andres Goens**, *Technology University Dresden*)
    - 1.1 Temporal Property-Based Testing of Timed C using Time-Flow Graphs
      - **Saranya Natarajan (V)** and David Broman
    - 1.2 A Language for Deterministic Coordination Across Multiple Timelines \*\*\*
      - **Marten Lohstroh (V)**, Christian Menard, Alexander Schulz-Rosengarten, Matthew Weber, Jeronimo Castrillon and Edward Lee
    - 1.3 Exploiting Dataflow Models for Parallel Simulation of Discrete Timed Systems
      - **George Ungureanu(V)**, Rodolfo Jordão and Ingo Sander
- 10:30 AM–11:00 AM **Coffee break**
- 11:00 AM–12:30 PM **Session 2**
  - **Synchronous Programming**  
(Chair: **Michael Mandler**, *University of Bamberg*)
    - 2.1 The Sparse Synchronous Model
      - **Stephen A. Edwards (V)** and John Hui
    - 2.2 From Lustre to Graphical Models and SCCharts
      - **Lena Grimm (P)**, Steven Smyth, Alexander Schulz-Rosengarten, Reinhard von Hanxleden and Marc Pouzet
    - 2.3 A Hard Real Time Demonstrator for Dynamic Ticks and Timed SCCharts
      - **Andreas Boysen (P)**, Alexander Schulz-Rosengarten and Reinhard von Hanxleden
- 12:30 PM–13:30 PM **Lunch**
- 13:30 PM–15:00 PM **Session 3**
  - **Theory & Control**  
(Chair: **Reinhard Von Hanxleden**, *University of Kiel*)
    - 3.1 An Algebra of Deterministic Propositional Acceptance Automata (DPAA)
      - **Aurelien Lamercurie (V)** and Benoit Caillaud
    - 3.2 Synchronized Shared Memory and Procedural Abstraction: Towards a Formal Semantics of Blech
      - Friedrich Gretz, Franz-Josef Grosch, **Michael Mandler (P)** and Stephan Scheele
    - 3.3 Supervisory Control for Dynamic Feature Configuration in Product Lines \*\*\*
      - Michel Reniers and **Sander Thuijsman (P)**
- 15:00 PM–15:30 PM **Coffee break**
- 15:30 PM–16:30 PM **Tutorial 1**
  - *Model-Driven Engineering of Technology Roadmaps*  
(Speaker: **Alexander Breckel**) (Chair: **Johannes Kölsch**)
- 16:30 PM– 17:30 PM **Keynote 1**
  - *More Deterministic Software for Cyber-Physical Systems*

- (Speaker: **Edward Lee (V)**, *University of California, Berkeley, USA*)
- (Chair : **Franco Fummi**, *University Of Verona,Italy*)
- 17:30 PM–18:00 PM **Teasers for PhD/Work in progress posters**
  - (Chair : **Martin Radetzki**, *University of Stuttgart*)
- 18:00 PM–19:00 PM **Poster Presentation /Welcome reception**

## Wednesday 16

- 08:30 AM–09:30 AM **Keynote 2**
  - A Synchronous Reactive Web Programming
  - (Speaker: **Manuel Serrano (V)**, *Inria, France*)
  - (Chair: **Rolf Drechsler**, *University of Bremen*)
- 09:30 AM–11:00 AM **Session 4**
  - **Hardware and Resource Management**  
(Chair: **Hauke Fuhrmann**, **Scheidt & Bachmann**)
    - 4.1 Efficient Cross-Level Testing for Processor Verification: A RISC-V Case-Study \*\*\*
      - **Vladimir Herdt (V)**, Daniel Grosse, Eyck Jentzsch and Rolf Drechsler
    - 4.2 QRML: A Component Language and Toolset for Quality and Resource Management
      - **Freek van den Berg (P)**, Vaclav Camra, Martijn Hendriks, Marc Geilen, Petr Hnetynka, Fernando Manteca, Pablo Pedro Sanchez, Tomas Bures and Twan Basten
    - 4.3 A Minimal RISC-V Vector Processor for Embedded Systems
      - **Matthew Johns (V)** and Tom Kazmierski
- 11:00 AM–11:30 AM **Coffee break**
- 11:30 AM–12:30 PM **Panel**
  - Hybrid System Design: from Requirements to Models
  - (Moderator: **Benoit Caillaud**, *INRIA Rennes*)
    - **Lena Buffoni**, Linköping University
    - **Goran Frehse**, ENSTA ParisTech
    - **Franco Fummi**, University of Verona
- 12:30 PM–13:00 PM **Moving to social event**
- 13:30 PM–19:00 PM **Social Event**
- 19:00 PM–20:30 PM **Dinner**

## Thursday 17

- 08:30 AM–09:30 AM **Keynote 3**
  - *On the heterogeneous needs of the railway industry: From safety-critical to enterprise-scale*
  - (Speaker: **Hauke Fuhrmann (P)**, *Dept. Head of Development of Schedit & Bachmann System Technik GmbH in Kiel*)
  - (Chair : **Christian Menard**, *Technology University Dresden*)
- 09:30 AM–11:00 AM **Session 5**
  - **Machine learning for code: Representations, analysis and optimization**

(Chair: **Jeronimo Castrillon**, *Technology University Dresden*)

- 5.1 ComPy-Learn: A toolbox for exploring machine learning representations for compilers
  - **Alexander Brauckmann (P)**, Andrés Goens and Jeronimo Castrillon
- 5.2 Machine Learning in Compilers: Past, Present and Future
  - **Hugh Leather (V)** and Chris Cummins
- 5.3 End-to-end Learning for Program Verification
  - **Xujie Si (V)**
- 5.3 Robust Models for Source Code: Techniques and Applications
  - **Pavol Bielik (P)**
- 11:00 AM–11:30 AM **Coffee break**
- 11:30 AM–12:30 PM **Tutorial 2**
  - *A SystemC-Based Scheme for Fault Injection*  
(Speaker: **Zainalabedin Navabi**) (Chair: **Johannes Kölsch**)
- 12:30 PM–13:30 PM **Lunch**
- 13:30 PM–15:00 PM **Session 6**
  - **System-Level Design and Verification with SystemC AMS**  
(Chair: **Lena Grimm**, *Kiel Germany*)
    - 6.1 Virtual Prototyping of Open Source Heterogeneous Systems with an Open Source Framework Featuring SystemC MDVP Extensions
      - **François Pecheux (V)**, Liliana Andrade, Marie-Minerve Louerat, Ilias Bournias, Roselyne Chotin and Daniela Genius
    - 6.2 Beyond real number modeling: Comparison of analog modeling approaches
      - **Wolfgang Scherr (V)** and Karsten Einwich
    - 6.3 Top-down design flow of an RF-to-bits receiver using SystemC-AMS
      - **Frank Rethmeier (V)**
    - 6.4 Bringing Uncertainties to System Simulation: A SystemC AMS Case Study
      - **Debra Maria Short Sotero**, Carna Zivkovic, **Christoph Grimm(V)**, Johannes Kölsch, Maximilian Ferstl, Dirk Denger, Daniel Krems and Andre Barisic

- 15:00 PM–15:30 PM **Coffee break**
- 15:30 PM–16:00 PM **Closing remarks/ Best Paper Award**

Most up-to-date  
information

<http://fdl-conference.com>



(V)=Virtual , (P) = Physical Presenter

\*\*\*Best paper Award and Nomination