

IEEE/ACM DS-RT 2022

Technical program - 26-28 September 2022

v. 1.3 - 09/09/2022 - 09:00

Program at a glance

Monday 26	Tuesday 27	Wednesday 28
	09:30-10:30 Keynote 2: Prof. Claire Pagetti	09:00-10:00 Tutorial 1: Dr Philipp Andelfinger
	10:30-11:00 Coffee break	10:00-11:30 Session 5: Miscellanea 1
	11:00-12:30 Session 2: HLA and DEVS	11:30-11:45 Coffee break
	12:30-13:30 Lunch	11:45-13:00 Session 6: Miscellanea 2
13:00-13:35 Welcome coffee	13:30-15:00 Session 3: Mobility and Networks 2	13:00-13:15 Closing session + best paper award announcement
13:35-13:45 Opening session	15:00-15:30 Coffee break	13:15-14:00 Lunch
13:45-14:45 Keynote 1: Prof. Gabriel Wainer	15:30-17:00 Session 4: Realtime	
14:45-15:15 Coffee break		
15:15-16:45 Session 1: Mobility and Networks 1		
17:00-18:00 Welcome cocktail at the City hall	Gala dinner	

NOTES

Keynotes: 45 min + 15 min Q&A

Full papers: 22 min (including Q&A)

Short papers: 15 min (including Q&A)

MONDAY, September 26

13:00-13:35

Welcome coffee

13:35-13:45

Opening session

13:45-14:45

Keynote 1

Discrete-Event Modeling and Simulation Methodologies: Past, Present and Future

Prof. Gabriel Wainer (Carleton University, Canada)

14:45-15:15

Coffee break

15:15-16:45

Session 1 - Mobility and Networks 1

Chair: Jalal Possik

Current Trends in Road Traffic Network Division for Distributed or Parallel Road Traffic Simulation

Tomas Potuzak (University of West Bohemia, Czech Republic)

On the Accuracy and Performance of Spiking Neural Network Simulations

Adriano Pimpini and Andrea Piccione (Sapienza, University of Rome, Italy); Alessandro Pellegrini (University of Rome Tor Vergata, Italy)

A Distributed Memetic Algorithm with a semi-greedy operator for the Traveling Salesman Problem

Manuella Latif Germanos and Danielle Azar (Lebanese American University, Lebanon); Abir Karami and Jalal Possik (Catholic University of Lille, France)

Performance of Extended LoRaEnergySim Simulator in supporting Multi-Gateway scenarios and Interference Management

Daniele Stumpo, Floriano De Rango and Francesco Buffone (University of Calabria, Italy); Mauro Tropea (Università della Calabria, Italy)

17:00-18:00

Welcome cocktail at the City Hall

TUESDAY, September 27

09:30-10:30

Keynote 2

CertifAI – towards the certification of ML-based systems

Prof. Claire Pagetti (ONERA, France)

10:30-11:00

Coffee break

11:00-12:30

Session 2 - HLA and DEVS

Chair: Simon Gorecki

Cell-DEVS CO2 With Occupants and Ducts

Gabriel Wainer and Mohammed Al-Saeed (Carleton University, Canada)

Enabling Simulation Interoperability between International Standards in the Space Domain

Edwin Crues and Daniel Dexter (NASA Johnson Space Center, USA); Alberto Falcone and Alfredo Garro (University of Calabria, Italy); Björn Möller (Pitch Technologies, Sweden)

A distributed digital twin implementation of a hemodialysis unit aimed at preventing the spread of the Omicron COVID-19 variant

Jalal Possik (Catholic University of Lille, France); Danielle Azar (Lebanese American University, Lebanon); Adriano O. Solis and Ali Asgary (York University, Canada); Greg Zacharewicz (IMT - Mines Ales & Lab LGI2P, France); Abir Karami (Catholic University of Lille, France); Mohammadali Tofighi and Mahdi Najafabadi (York University, Canada); Mohammad Ali Shafiee, Asad Merchant and Mehdi Aarabi (Toronto General Hospital, Canada); Jianhong Wu (York University, France)

Distributed Simulation for Digital Twins: an Application to Support the Autonomous Robotics for the Extended Ship

Francesco Longo and Antonio Padovano (University of Calabria, Italy); Lorenzo Caputi, Gianluca Gatti, Petronilla Fragiaco and Virginia DAugusta (UNICAL, Italy); Simone Talarico (UNICAL, France)

12:30-13:30

Lunch

13:30-15:00

Session 3 - Mobility and Networks 2

Chair: Luca Serena

NBCC: Simulation of a new Caching strategy using Naive Bayes Classifier in NDN

Abdelkader Tayeb Herouala, Benameur Ziani and Chaker Abdelaziz Kerrache (University of Laghouat, Algeria); Carlos T. Calafate (Universidad Politécnica de Valencia, Spain); Nasreddine Lagraa (Université Amar Telidji Laghouat, Algeria & LIM Laboratory, Algeria); Juan-Carlos Cano (Universidad Politecnica de Valencia, Spain)

SIMUTEC: A transdisciplinary agent-based simulation for land use and transport for ecological transition

Simon Gorecki, Seghir Zerguini and Mamadou Kaba Traore (University of Bordeaux, France); Nathalie Gaussier (Université de Bordeaux, France) [short paper]

Protocol Recognition in Virtual Avionics Network Based on Efficient and Lightweight Convolutional Neural Network

Van-Tuan Bui, Mohamed Kerkech, Michel Africano, Lise Martin and Krishnan Srinivasarengan (Capgemini Engineering, France)

A Pedestrian Movement Model for 3D Visualization in a Driving Simulation Environment

Maximilian Neubauer (Fraunhofer FOKUS, Germany); Géraldine Ruddeck (Mercedes-Benz AG, Germany); Robert Protzmann (Fraunhofer FOKUS, Germany); Karl Schrab (Technische Universität Berlin, Germany); Ilja Radusch (Fraunhofer FOKUS & Daimler Center for Automotive IT Innovations (DCAITI), Germany)

15:00-15:30

Coffee break

15:30-17:00

Session 4 - Realtime

Chair: Philipp Andelfinger

Towards an efficient cost function equation for DDR SDRAM interference analysis on heterogeneous MPSoCs

Alfonso Mascareñas González and Jean-Baptiste Chaudron (ISAE-SUPAERO, France); Frédéric Boniol (ONERA, France); Youcef Bouchebaba (ONERA, Toulouse, France); Jean-Loup Bussenot (ONERA, France)

A Large-Scale, End-to-End Synchronous, Distributed Data Stream Processing Architecture for Time-Sensitive Applications

Panayiotis A Michael (National Technical University of Athens & University of California Los Angeles, Greece); Panayiotis Tsanakas (National Technical University of Athens, Greece); D. Stott Parker (University of California, Los Angeles, USA)

DAG Scheduling Considering Parallel Execution for High-Load Processing on Clustered Many-Core Processors

Ryo Okamura and Takuya Azumi (Saitama University, Japan)

An integrated approach of Genetic Algorithm and Machine Learning for generation of Worst-Case Data for Real-Time Systems

Vikash Kumar (Indian Institute of Science, India)

??:??-??:??

Gala dinner

WEDNESDAY, September 28

09:00-10:00

Tutorial 1

Large-Scale Simulations of Agent-Based Systems: Parallel, Heterogeneous, Differentiable

Dr. Philipp Andelfinger

10:00-11:30

Session 5 - Miscellanea 1

Chair: Gregory Zacharewicz

Multilevel Modelling as a Methodology for the Simulation of Human Mobility

Luca Serena and Gabriele D'Angelo (University of Bologna, Italy); Stefano Ferretti (University of Urbino, Italy); Moreno Marzolla (University of Bologna, Italy)

Comparing Speculative Synchronization Algorithms for Continuous-Time Agent-Based Simulations

Philipp Andelfinger (University of Rostock, Germany); Andrea Piccione (Sapienza, University of Rome, Italy); Alessandro Pellegrini (University of Rome Tor Vergata, Italy); Adelinde Uhrmacher (University of Rostock, Germany)

Network Modularity based Clustering for Portfolio Allocation: a Monte-Carlo Simulation Study

Stefano Ferretti and Sara Montagna (University of Urbino, Italy)

A Behavior Specification and Simulation Methodology for Embedded Real-Time Software

Tobias Dörr and Florian Schade (Karlsruhe Institute of Technology, Germany); Alexander Ahlbrecht and Wanja Zaeske (German Aerospace Center (DLR), Germany); Leonard Masing (Vector Informatics, Germany); Umut Durak (German Aerospace Center (DLR), Germany); Juergen Becker (Karlsruhe Institute of Technology, Germany)

11:30-11:45

Coffee break

11:45-13:00

Session 6 - Miscellanea 2

Chair: Alberto Falcone

Efficient and Reliable Clustering by Parallel Random Swap Algorithm

Liberio Nigro (University of Calabria, DIMES, Italy); Franco Cicirelli (CNR - National Research Council, Italy); Pasi Franti (University of Eastern Finland, Finland) [short paper]

Metadata Specification for DEVS simulation models

Bruno St-Aubin and Gabriel Wainer (Carleton University, Canada) [short paper]

Mobility-based Multi-layered Caching and Data Distribution in Vehicular Fog Computing

K M Nafiul Hassan and Robson E. De Grande (Brock University, Canada) [short paper]

The use of the IEEE HLA standard to tackle interoperability and time synchronization issues between heterogeneous components

Ahmad Al Maksour and Hadi Gerges (Catholic University of Lille, France); Simon Gorecki (University of Bordeaux, France); Jalal Possik (Catholic University of Lille, France); Greg Zacharewicz (IMT - Mines Ales & Lab LGI2P, France) [short paper]

Simulation of the Internet Computer Protocol: the Next Generation Multi-Blockchain Architecture

Luca Serena (University of Bologna, Italy); AoXuan Li (Macao Polytechnic University, Macao); Mirko Zichichi (Universidad Politécnica de Madrid, Spain); Gabriele D'Angelo (University of Bologna, Italy); Stefano Ferretti (University of Urbino, Italy); Su-Kit Tang (Macao Polytechnic University, Macao)

13:00-13:15

Closing session + best paper award announcement

13:15-14:00

Lunch