



THE SOCIETY FOR
MODELING & SIMULATION
INTERNATIONAL

SUMMERSIM

Summer Simulation
Multi-Conference 2017

JULY 9-12, 2017

Sheraton Bellevue, Seattle Area, WA



2017 SummerSim

PROGRAM BOOK

July 9-12, 2017
Bellevue, Washington, USA

General Chair
José Luis Risco Martín

General Co-Chair
Andrea D'Ambrogio

Program Chairs
Eugene Syriani
Ramulu Mamidala

Thank you to our Sponsor Below



Welcome to SummerSim '17

Welcome from the General Chair

Dear Respected Colleagues and Friends,

As a member of the Organizing Committee, I am delighted and honored to welcome all of you to the Summer Simulation Multi-Conference 2017 (SummerSim'17) in Bellevue, Washington.

The Society for Modeling & Simulation International (SCS), which organizes SummerSim, is one of the oldest Modeling and Simulation organizations in the world. It endeavors to promote the advancement of Modeling and Simulation and connect Modeling and Simulation professionals worldwide. The SummerSim'17 program includes an excellent selection of peer-reviewed papers, presentations, distinguished keynote speeches and tutorials. In addition, SummerSim'17 offers a Ph.D. colloquium where students and established professionals can meet and exchange ideas. This year SummerSim'17 best paper award is sponsored by Systems (an MDPI Journal). Great thanks to the organizations that have donated money, licenses and books to recognize the best submissions at this conference.

I would also like to thank our keynote speakers Bernard P. Zeigler and Carey Williamson, for graciously accepting to share their vast knowledge and experiences with us. Bernard P. Zeigler is a Professor Emeritus of Electrical and Computer Engineering at the University of Arizona and Chief Scientist with RTSync Corp. Carey Williamson is a Professor in the Department of Computer Science at the University of Calgary. My thanks also goes to all members of the Organization Committee for their tireless efforts especially in working through the introduction of a new format and editing process. It was truly a team effort. The committee consists of:

General Chair	José Luis Risco Martín, Complutense University of Madrid, Spain
General Co- Chair	Andrea D'Ambrogio, University of Rome "Tor Vergata", Italy
Program Co-Chairs	Eugene Syriani, University of Montreal, Canada Ramulu Mamidala, University of Washington, USA
Publication Chair	Robert Wille, Johannes Kepler University Linz, Austria
Tutorial Chair	Gregory Zacharewicz, University of Bordeaux, France
Student Colloquium Co-Chairs	Zeljko Zilic, McGill University, Canada Bryan Ferguson, University of Washington, USA
Awards Chair	Floriano de Rango, University of Calabria, Italy

As a Multi-Conference, our success depends heavily on the Conference chairs, whose invaluable efforts in their respective sections were key to the success of the overall Multi-Conference. This year's Conference chairs are:

Welcome to SummerSim '17

- International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2017), chaired by Helena Szczerbicka.
- 49th Summer Computer Simulation Conference (SCSC 2017), chaired by Andrea D'Ambrogio. This year SCSC introduces three new tracks: Agent-based Modeling and Simulation (ABMS), DEVS Modeling & Simulation (DEVS), and Modeling and Simulation as a Service (MSaaS).

I would also like to express my thanks to the respective Program Chairs:

- SPECTS 2017: Malamati Louta
- SCSC 2017: Eugene Syriani

Moreover, thanks to all track chairs that did a good job promoting the respective research topics and selecting the reviewers in the respective tracks.

I am very grateful for the efforts of all of the volunteers that dedicated their time and effort to review and edit all of the submissions and thus make this gathering possible. I also express my gratitude to authors and tutorial presenters for their important contributions.

Special thanks go to the SCS office, Oletha Darensburg, Carmen Ramírez, Mike Chinni and the team for their high level of professionalism, and for the smooth running of all the events. Finally yet importantly, thanks to Prof. Saikou Y. Diallo, Vice President for SCS Conferences, for his outstanding support in shaping various things for SummerSim over the organization process.

Bellevue is the fifth largest city in Washington, with a population of more than 130,000. It is the high-tech and retail center of the Eastside. Surrounded by magnificent natural beauty and outdoor spaces, this one-of-a-kind place offers the ultimate in shopping, dining and cultural attractions, all within easy strolling distance of popular hotels. Vibrant, modern and growing, Bellevue is the gateway to the entire Puget Sound region. Within minutes, we can explore Seattle's culture and history, visit Kirkland's waterfront parks and galleries, or tour Woodinville's Wine Country, home to over 100 tasting rooms and some of the world's best wines. We can even quench our taste for adventure with a day-trip to nearby mountains for hiking, biking, or skiing. I wish all attendees to enjoy Bellevue and to enjoy the conference.

Welcome to SummerSim'17.

José L. Risco Martín, Ph.D.
General Chair SummerSim 2017
Complutense University of Madrid, Spain

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GENERAL INFORMATION

General Information

SummerSim'17

The Summer Simulation Multi-Conference 2017 (SummerSim'17) is a combination of the Summer Computer Simulation Conference (SCSC) and the International Symposium on Performance Evaluation of Computer and Telecommunications Systems (SPECTS).

SummerSim'17 Organizing Committee

General Chair: José Luis Risco Martín , Complutense University of Madrid, Spain

General Co-Chair: Andrea D'Ambrogio, University of Rome "Tor Vergata", Italy

Program Co-Chairs: Eugene Syriani, University of Montreal, Canada; Ramulu Mamidala, University of Washington, USA

Publications Chair: Robert Willie, Johannes Kepler University Linz, Austria

Tutorial Chair: Gregory Zacharewicz, University of Bordeaux, France

Student Colloquium Chairs: Zeljko Zilic, McGill University, Canada; Bryan Ferguson, University of Washington, USA

Awards Chair: Floriano de Rango, University of Calabria, Italy

SummerSim'17 Steering Committee

Saurabh Mittal, The MITRE Corporation, USA

Justyna Zander, Mathworks Inc., USA

Abdolreza Abhari, Ryerson University, Canada

2017 Summer Computer Simulation Conference (SCSC 2017)

SCSC 2017 features varied tutorials, tracks, and workshops. The conference focuses on modeling and simulation, tools, theory, methodologies and applications, providing the latest R&D results in academia and industry.

General Chair: Andrea D'Ambrogio, University of Rome "Tor Vergata", Italy

Program Chair: Eugene Syriani, University of Montreal, Canada

Publications Chair: Inmaculada Pardines, Complutense University of Madrid, Spain

Tracks

- Agent-based Modeling and Simulation (ABMS)
Chairs: Simon Taylor and Anastasia Anagnostou
- Bio-Medical and Population Modeling (BMPM)
Chair: Jacob Barhak and Robert Smith?
- Cyber Modeling & Simulation, Ranges, and Tools (CyberSim)
Chair: Suresh Damodaran

General Information

2017 Summer Computer Simulation Conference (SCSC 2017)

Tracks Continued

- **DEVS Modeling & Simulation (DEVS)**
Chairs: José Luis Risco Martín and Olivier Dalle
- **Emergency Management Simulation (EMS)**
Chairs: Francesco Longo and Letizia Nicoletti
- **Grand Challenges in Modeling and Simulation (GCMS)**
Chair: Ali Elkamel, Chandramouli R. Madhuranthakam, and Hedia Fgaier
- **Modeling and Simulation as a Service (MSaaS)**
Chairs: Andrea D'Ambrogio and Robert Siegfried
- **Modeling and Simulation for Intelligent, Adaptive and Autonomous Systems (MSIAAS)**
Chairs: Saurabh Mittal and Marco Lützenberger
- **Modeling and Simulation for Sustainability (MSS)**
Chair: Björn Johansson and Mahesh Mani
- **Simulation in the System Design Flow (SDF)**
Chairs: Alberto A. Del Barrio and Seda Ogrenci Memik
- **Verification and Validation of Computer Simulation Models (V&V)**
Chair: Miroslav Velez
- **Work in Progress (WIP)**
Chairs: Eugene Syriani and Andrea D'Ambrogio

International Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS 2017)

This annual international conference is a scientific forum for professionals and scientists involved in performance evaluation of computer and telecommunication systems.

General Chair: Helena Szczerbicka, University of Hannover, Germany

Program Chair: Malamati Louta, University of Western Macedonia, Greece

Publication Chair: Jose Saldana, University of Zaragoza, Spain

General Information

Registration

Your registration for the 2017 Summer Simulation Multi-conference (SummerSim'17) includes AM and PM breaks, the Monday evening reception and all social mixers, and access to all sessions, tutorials and special presentations (unless otherwise noted). Please visit the SCS Registration Desk in the Gallery Area on Sunday and Pre-Function Area on Monday through Wednesday for any questions you have during the conference.

Registration Hours—Gallery Area (Sunday Only) & Pre-Function Area (Monday—Wednesday):

Sunday, July 9th – 08:00-10:00 & 16:00-18:00

Monday, July 10th – 07:00–17:00

Tuesday, July 11th – 07:00–17:00

Wednesday, July 12th – 07:30–14:00

Please note that the Registration Desk will be closed for lunch Mon through Wed 12:00-13:30)

Breaks and Lunches

Coffee Breaks— Pre – Function Area:

Monday, July 10th:

Breaks: 10:00–10:30 | 15:00-15:30 | Lunch: 12:00-13:30

Tuesday, July 11th:

Breaks: 10:00–10:30 | 15:00-15:30 | Lunch: 12:00-13:30

Wednesday, July 12th:

Breaks: 10:00-10:30 | 15:00-15:30 | Lunch: 12:00-13:30

Breakfast

Breakfast will be held Monday – Wednesday from 07:15 – 08:00, located in Somerset Ballrooms I, II, & III. Attendees can meet their chairs at breakfast each morning before their presentation.

General Information

Keynotes/Plenary

Welcome & Keynotes/Plenary Sessions (Snoqualmie Ballrooms)

- Monday Plenary: 08:00-08:30: Welcome and Opening
- 08:30-09:30: Keynote 1 Session & Plenary: Bernard P. Zeigler
RTSync Corp., USA;
How Theory and Abstraction Drive Progress in Simulation
Science and Practice
- Tuesday Plenary: 08:00-08:30: Announcements & Best Paper Awards
- 08:30-09:30: Keynote 2 Session & Plenary: Carey Williamson
University of Calgary, Canada;
Dynamic Speed Scaling: Theory, Practice, and the Role of
Simulation

Sunday Events

- SCS Board of Directors Meeting (09:00); Mt. Rainier Room
*SCS Board Members
- Tutorials (11:00-16:45); Somerset Ballrooms
 - Speaker: Alberto Del Barrio & Pagán, Modeling the eHealth Scenario
Time: Sunday, 11:00-12:30
 - Speaker: Jacob Barhak, Population Modeling
Time: Sunday, 13:30-15:00
 - Speaker: Karthik Vasudevan & Hernan Awad, Simulation & Optimization @
Amazon
Time: Sunday, 15:15-16:45

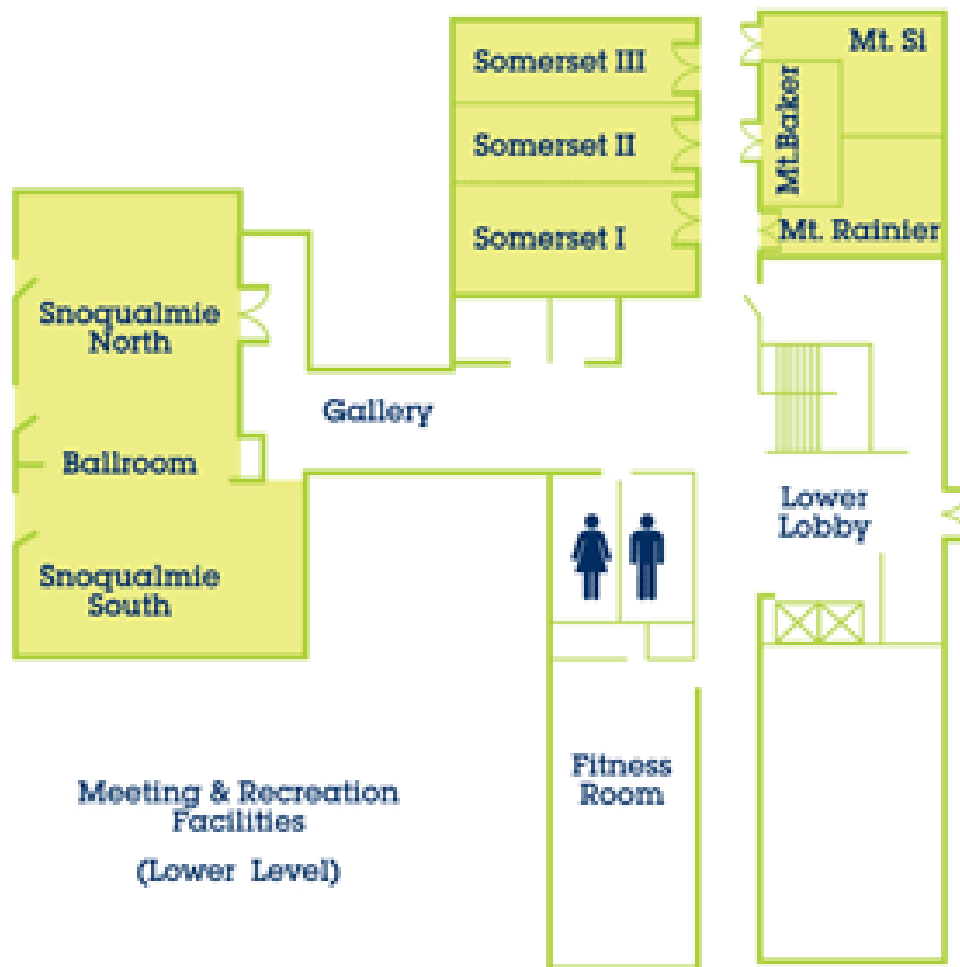
Monday Evening Reception

There will be a welcome social with drinks and light appetizers in the Pre-Function Area on Monday, July 10 from 17:00-18:30. All attendees and their guests are invited to attend.

MAPS

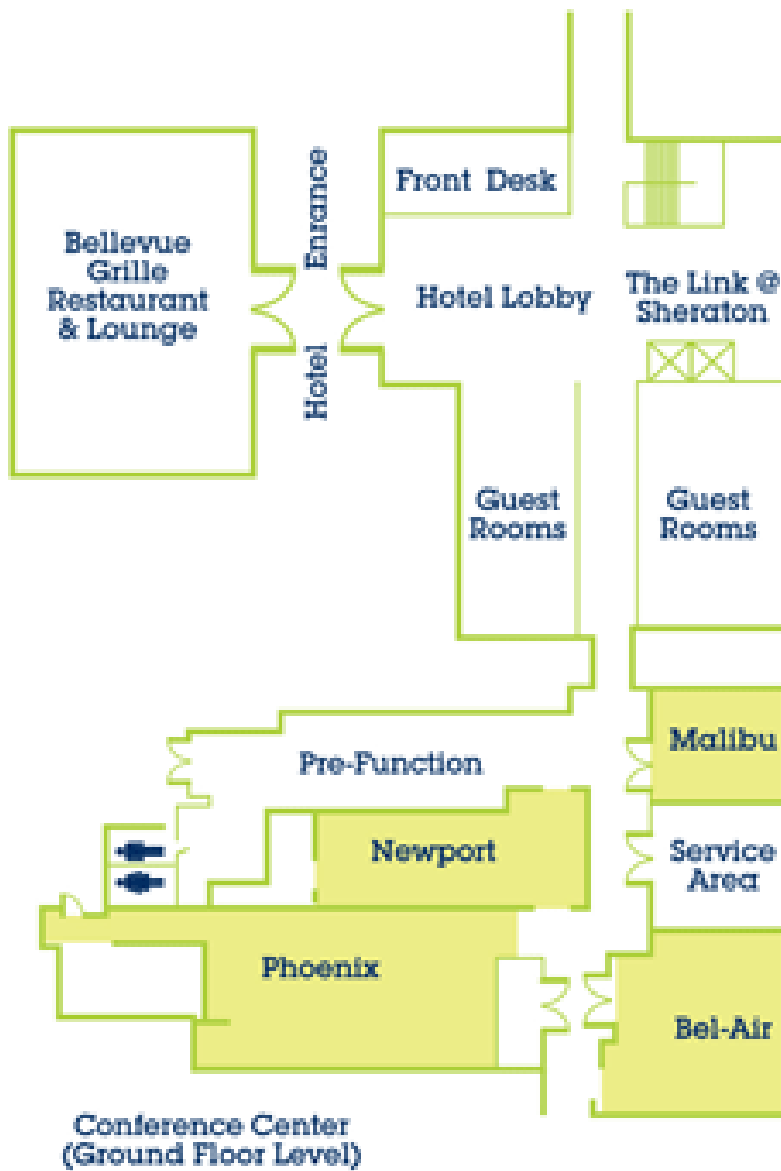
Sheraton Bellevue Map

Lower Level



Sheraton Bellevue Map

Ground Floor Level



Notes

KEYNOTES

Keynote Speaker

TITLE: How Theory and Abstraction Drive Progress in Simulation Science and Practice

AUTHOR: Bernard P. Zeigler, RTSync Corp., USA

DATE/TIME: Monday, July 10, 2017 | 08:30-09:30

LOCATION: Snoqualmie Ballrooms



ABSTRACT:

The notions of state and discrete event were allied abstractions conceived to characterize models underlying the operations research techniques that emerged in the mid-1950s. At that time the limitations of queueing analysis methods for supporting industrial design became evident and led to new abstractions, first spurring machine language attempts to handle specific complex systems, then eventually to general purpose simulation modeling tools. Innovator K.D. Tocher's core idea was that of a system of individual components progressing through 'states' that change only at discrete 'events' as time unfolds. Later, the Discrete Event Systems Specification (DEVS) formalism took the discrete event abstraction one step further using the set theory of logicians and mathematicians. This talk starts with the proposition that both abstraction and its concrete realization are essential for progress abstractions enable uncluttered thought while concrete realizations are closer to reality but necessarily messy. Our theme riffs on the progression: new abstractions lead to new model representations which in turn drive requirements for new computational environments to exercise and explore these models. When the new abstractions can be related to existing ones, the process of integrating new models and extending legacy simulation systems can be smoother encountering less resistance to change. To make these points we recount some history of DEVS and its progress from a research abstraction to industrial strength realizations supported by high-performance simulation technology. We indicate how progress continues with deeper theory and new abstractions that can enable modeling complex systems of systems from neuron networks to aviation and cyber-systems.

SHORT BIO:

Bernard P. Zeigler is Professor Emeritus of Electrical and Computer Engineering at the University of Arizona. While in Arizona, Dr. Zeigler served as the Co-Director of the Arizona Center for Integrative Modeling and Simulation (ACIMS). He is currently Chief Scientist with RTSync Corp. an ACIMS spinoff dedicated to commercialization of ACIMS technology. and affiliated with the Center of Excellence in Command, Control, Communications, Computing and Cyber. Zeigler is best known for his highly cited publication, "Theory of Modeling and Simulation" and has received much recognition for his various scholarly publications, achievements, and professional service. His 1984 book, "Multifaceted Modelling and Discrete Event Simulation," received the Outstanding Publication Award in 1988 from The Institute of Management Sciences (TIMS) College on Simulation. Zeigler was made Fellow of the Institute of Electrical and Electronics Engineers (IEEE) for his invention of the Discrete Event System Specification (DEVS) formalism in 1995. He is also Fellow of The Society for Modeling and Simulation International (SCS) where he served as President (2002-2004) as well as in other positions. He is a member of the SCS Hall of Fame and received Lifetime Achievement Awards from both the SCS and the INFORMS Simulation Society.

Keynote Speaker

TITLE: Dynamic Speed Scaling: Theory, Practice, and the Role of Simulation

AUTHOR: Carey Williamson, University of Calgary

DATE/TIME: Tuesday, July 11, 2017 | 08:30—9:30

LOCATION: Snoqualmie Ballrooms



ABSTRACT:

This talk provides multiple different perspectives on dynamic CPU speed scaling systems. Such systems have the ability to auto-scale their service capacity based on demand, which introduces many interesting tradeoffs between response time, fairness, and energy efficiency. The talk begins by highlighting key results and observations from prior speed scaling research, which straddles both the theory and systems literature. A recurring theme in the talk is the dichotomy between the assumptions, approaches, and results in these two different research communities, and the role that simulation can play in bridging between them. The main part of the talk shares several insights from our own work on speed scaling designs, including coupled and decoupled speed-scaling systems. This work includes analytical and simulation modeling, as well as empirical system measurements on a modern Intel i7 processor, which we have used for calibration and validation of our speed scaling simulator. These models are then used to study auto-scaling effects in speed scaling systems, using discrete-event simulation.

SHORT BIO:

Carey Williamson is a Professor in the Department of Computer Science at the University of Calgary. His educational background includes a BSc Honors degree in Computer Science from the University of Saskatchewan in 1985, and a PhD in Computer Science from Stanford University in 1991. Dr. Williamson's research interests include Internet protocols, wireless networks, network traffic measurement, workload characterization, network simulation, and Web server performance. He is a member of ACM, SIGMETRICS, and IFIP Working Group 7.3. He served as SIG Chair for ACM SIGMETRICS from 2007-2011, and as conference chair for ACM SIGMETRICS 2005, WWW 2007, and ACM IMC 2014. He is also a founding co-Editor-in-Chief of the new ACM Transactions on Modeling and Performance Evaluation of Computing Systems.

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Notes

AGENDAS

BMPM 2017 Agenda

Monday, 10 July 2017

08:00-09:30 (Snoqualmie Ballrooms): Welcome & Opening Session and Keynote 1 Session/Plenary

Session I: Bio-Medical and Population Modeling Tools

10:30-12:00 (Newport Room) Session Chair: Robert Smith?

- *Population Modeling By Examples III* by Population Modeling Working Group (Jacob Barhak)
- *Microsimulation Models for Cost-Effectiveness Analysis: A Review And Introduction To Ceam* by Reed Sorensen, Abraham Flaxman, Alec Deason, John Mumford, Erika Eldrenkamp, Mark Moses and Marcia Weaver
- *The Reference Model Models Clinicaltrials.Gov* by Jacob Barhak

12:00-13:30 Lunch

Session II: Bio-Medical and Population Modeling Applications

13:30-15:30 (Newport Room) Session Chair: Jacob Barhak

- *Towards An Anatomical Modeling Pipeline For Simulation And Accurate Navigation For Brain And Spine Surgery* by Michel Audette, Tanweer Rashid, Shrabani Ghosh, Nirmal Patel, Lucas Potter and Sharmin Sultana
- *Using Sensitivity Analysis To Examine The Effects Of An Ebola Vaccine* by Stephanie Wiafe, Emma Veilleux-Gravel and Robert Smith?
- *Untangling Uncertainty with Common Random Numbers: A Simulation Study* by Abraham Flaxman, Alec Deason, Andrew Dolgert, John Mumford, Reed Sorensen, Erika Eldrenkamp, Theo Vos, Kyle Foreman and Marcia Weaver

ABMS 2017 Agenda

Tuesday, 11 July 2017

08:30-09:30 (Snoqualmie Ballrooms): Keynote 2 Session/Plenary

Session I: Markey & Finance Analysis

10:30-12:00 (Newport Room) Session Chair: Don Bernd

- *Developing Winning Marketing Strategies In A Competitive Software Market* by Jue Wang, Robert Axtell and Andrew Loerch
- *Application of the Multi-Agent Simulation Modeling for the Supply of Hardware Stores* by Konstantin Aksyonov, Eugene Bykov, Olga Aksyonova, Alena Nevolina and Natalia Goncharova
- *Using Agent-Based Modeling To Assess Mutual Fund Liquidity Risk* by Don Berndt, David Boogers, Saurav Chakraborty and James McCart

12:00-13:30 Lunch

Session II: Healthcare & Human behavior

13:30-15:30 (Newport Room) Session Chair: Greg Wolffe

- *Spectral Analysis of Network Effects in a Complex Adaptive System of Human And Nature Dynamics* by Patrick Neal, Zining Yang and Mark Abdollahian
- *Generative Models for Synthetic Populations* by Juan Gonzalo Carcamo, Roderick Graham Vogel, Adam M. Terwilliger, Jonathan P. Leidig and Greg Wolffe
- *An Agent-Based Simulation of the Impact of Yogic Breathing Adoption* by Saturnina Nisperos, Frederic McKenzie and Sonali Kakde

GCMS 2017 Agenda

Wednesday, 12 July 2017

Session I: Grand Challenges in Modeling and Simulation

08:30-10:00 (Newport Room) Session Chair: Peter Maurer

- *Do Not Completely Redesign Pdes Framework for Smart Devices: An Empirical Study to Benchmark Execution Time and Energy Consumption of Ross Framework at Core Function Level* by Asad Malik, Fahad Maqbool and Syed Meesam Raza Naqvi
- *A Simulation Modelling Process Based on Expert Modellers' Practices* by Rizwan Ahmed
- *GPU-Accelerated High-Fidelity Simulation of Beam-Beam Effects in Particle Colliders* by Kamesh Arumugam, Ravi Teja Majeti, Desh Ranjan, Mohammad Zubair, Balsa Terzic and Alexander Godunov

Session II: Grand Challenges in Modeling and Simulation

10:30-12:30 (Newport Room) Session Chair: Peter Maurer

- *Finite Random Variates Using Differential Search Trees* by Peter Maurer
- *A Flexible Multi-Core Functional Cache Simulator (Fm-Sim)* by Yul Chu and Rano Mal
- *Building Accurate Models to Determine the Current CPU Utilization of a Host Within a Virtual Machine Allocated on It* by Samira Briongos, Pedro Malagon, José Luis Risco Martín and Jose Manuel Moya
- *Thermal Management in Three-Dimensional Network-on-Chip Using Bio-Inspired Liquid Channel Placement* by Ranjita Dash, José Luis Risco Martín, Jose L. Ayala, Amartya Majumdar, Ashok Kumar Turuk and Vinod Pangracious

12:00-13:30 Lunch

Notes

SCSC General 2017 Agenda

Monday, 10 July 2017

08:00-09:30 (Snoqualmie Ballrooms): Welcome & Opening and Keynote 1 Session/Plenary

Session I: DEVS Modeling & Simulation

09:30-10:00 (Phoenix Room)

Session Chair: Gregory Zacharewicz

- *Simulation & Experimentation—Innovation at Scale @ Amazon* by Karthik Vasudevan

Session II: DEVS Modeling & Simulation

10:30-12:00 (Phoenix Room)

Session Chair: José Luis Risco Martín

- *Development of Air Combat HDEVS Model Implemented in HDEVSIM++ Environment* by Jun Hee Lee, Seon Han Choi, Ho Dong Yoo, Jung Koo and Tag Gon Kim
- *Advanced Migraine Prediction Simulation System* by Josué Pagán, José M. Moya, Saurabh Mittal and José L. Ayala
- *SFIDE: A Simulation Infrastructure For Data Centers* by Ignacio Penas, Marina Zapater, José L. Risco-Martín and José L. Ayala

12:00-13:30 Lunch

Session III: Cyber Modeling & Simulation, Ranges, and Tools

13:30-15:30 (Phoenix Room)

Session Chair: Suresh Damodaran

- *Latent Feature Vulnerability Ranking of CVSS Vectors* by Dennis Ross, Allan Wollaber and Pierre Trepagnier
- *Controlled Environments for Cyber Risk Assessment of Cyber-Physical Systems* by Suresh Damodaran and Saurabh Mittal
- *Restoration Decision Making for a Supply Chain Network Under Cyber Attack* by Emily Heath, John E. Mitchell and Thomas C. Sharkey
- *Analysis of Automated Adversary Emulation Techniques* by Andy Applebaum, Doug Miller, Blake Strom, Henry Foster and Cody Thomas

Session IV: Emergency Modeling and Simulation

16:00-17:30 (Phoenix Room)

Session Chair: Francesco Longo

- *Collective Decision Dynamics in Group Evacuation* by Chantal Nguyen, Kimberly Schlesinger and Jean Carlson
- *A Pilot Study of Available Bed Forecasting System (ABFS) in the Emergency Healthcare Network* by Shao-Jen Weng, Yeong-Yuh Xu, Donald Gotche and Lee-Min Wang
- *Development of Psychological First Aid Simulation Using Standardized Patients in Korea (WIP)* by Yun-Jung Choi

SCSC General 2017 Agenda

Tuesday, 11 July 2017

08:30-10:00 (Snoqualmie Ballrooms): Keynote 1 Session/Plenary

Session V: Experimentation

10:30-12:00 (Phoenix Room)

Session Chair: Saurabh Mittal

- *Models as Autonomous Adaptive Mediators and Cognitive Instruments for Systems Science* by Levent Yilmaz

Session VI: Modeling and Simulation as a Service

10:30-12:00 (Phoenix Room)

Session Chair: Andrea D'Ambrogio

- *Crash Me Inside The Cloud: A Fault Resilient Framework for Discrete Event Simulation* by Asad Malik and Imran Mahmood
- *Business Process Modeling And Simulation: State of the Art And MSaaS Opportunities* by Paolo Bocciarelli, Andrea D'Ambrogio, Andrea Giglio, Antonio Mastromattei and Emiliano Paglia
- *Simulation Models and Artificial Neural Networks for Vessels Behavior Analysis* by Agostino Bruzzone, Riccardo Di Matteo, Giovanni Luca Maglione and Marina Massei

12:00-13:30 Lunch

Session VII: Work in Progress

13:30-15:30 (Phoenix Room)

Session Chair: Zeljko Zilic

- *Robustness of Design Strategy for Under Body Line in an Automotive Body Shop (WIP)* by Young Hoon Lee, Dong Su Son, Yang Woo Shin and Dug Hee Moon
- *A Review of the use of Business Simulation to Enhance Students' Employability (WIP)* by Arwa Asiri, Andrew Greasley and Paul Bocij
- *The Application Of Simulation Approaches to Product Service Systems: A Review (WIP)* by Emmanuel Musa, Andrew Greasley and Pavel Albores
- *Assessing Solar Photovoltaic (PV) Technology Diffusion and Grid Stability Using an Agent-Based Modeling Approach (WIP) & Student Colloquium* by Jacob Monroe and Emily Berglund

Session VIII: Modeling and Simulation for Sustainability

16:00-17:30 (Phoenix Room)

Session Chair: Björn Johansson

- *Simulation For Higher Education Sustainability: A Growing Institution Case Study* by Anatoly Kurkovsky
- *A Simulation Study On A Flexible Manufacturing Systems For Producing Aircraft Engine Parts (WIP)* by Dong Su Son, Young hoon Lee, Yang Woo Shin and Dug Hee Moon
- *Reliability Analysis Of State Transportation Network Under Path Failure Strategies (WIP)* by Krishna Tadikmalla and Xiaolong Wu

SCSC General 2017 Agenda

Wednesday, 12 July 2017

Session IX: Simulation in the System Design Flow I

08:30-10:00 (Phoenix Room) Session Chair: Alberto Antonino del Barrio Garcia

- *Energysim: An Energy Consumption Simulator for Web Search Engine Processors* by Jose Orellana, Carolina Bonacic, Mauricio Marin and Veronica Gil Costa
- *D2M: Data-Driven Model for Fast And Accurate Timing Error Simulation in Statically Scheduled Microprocessors* by Yuanbo Fan and Russ Joseph
- *Simulation and Implementation of a Low-Cost Platform to Improve the Quality of Biological Images* by Hermenegildo Fabregat, Alberto Antonio Del Barrio Garcia and Guillermo Botella

Session X: Simulation in the System Design Flow II

10:30-12:30 (Phoenix Room) Session Chair: Miroslav Velev

- *A DCT and Neural Network Based System to Obtain the Characteristics of Biological Images* by Daniel Fariña, Guillermo Botella and Alberto Antonio Del Barrio Garcia
- *Multikernel Simulation: A New Approach to Study Rollback Sensitive Memory Architecture (WIP)* by Aditya Kumar, Dr. Priya Chandran and Lakshya Garg
- *V&V: The Prediction Model Of Thin-Walled Steel Perforated Sections In Compression: Comparison Of Ann And Finite Element Method* by Zhijun Lu, Qi Lu, Meng Wu, Qian Xiang and Jun Gu

12:00-13:30 Lunch

Notes

SPECTS 2017 Agenda

Monday, 10 July 2017

08:00-09:30 (Snoqualmie Ballrooms): Welcome Session and Keynote 1 Session/Plenary)

Session I: Wireless Communications and Networking (I)

10:30-12:00 (Bel-Air) Session Chair: Carey Williamson

- *A New Switched Beam Smart Antenna Model for Supporting Asymmetrical Communications Extending Inet Omnet++ Framework* by Vincenzo Inzillo, Floriano De Rango, Alfonso Ariza Quintana and Amilcare Francesco Santamaria
- *Understanding the Feasibility of Machine Learning Algorithms in a Game Theoretic Environment for Dynamic Spectrum Access* by Alisha Thapaliya and Shamik Sengupta
- *Achieving Maximal Sum-Rate Capacity of Two-Way Cognitive Radio with Relays Operating in Separate Bands through Monotonic Optimization of Transmission Power* by Udit Pareek and Daniel Lee

12:00-13:30 Lunch

Session II: Tools and Methodologies

13:30-15:30 (Bel-Air) Session Chair: Shamik Sengupta

- *Cooperation between Data Modeling and Simulation Modeling for Performance Analysis of Hadoop* by Byeong Soo Kim and Tag Gon Kim
- *Using ZeroMQ as Communication/Synchronization Mechanisms for IO Requests Simulation* by Sebastien Gougeaud, Soraya Zertal, Jacques-Charles Lafoucrière and Philippe Deniel
- *Matrix Reconstruction: Skeleton Decomposition Versus Singular Value Decomposition* by Ali Sekmen, Akram Aldroubi, Ahmet Bugra Koku and Keaton Hamm

Session III: Software Performance

16:00-17:30 (Bel-Air) Session Chair: Sebastian Gougeaud

- *A Campus-Level View of Netflix and Twitch: Characterization and Performance Implications* by Michel Laterman, Martin Arlitt and Carey Williamson
- *Combining the Multi-Agent Flood Algorithm with Frontier-Based Exploration in Search & Rescue Applications* by Florian Blatt and Helena Szczerbicka

SPECTS 2017 Agenda

Tuesday, 11 July 2017

08:30-09:30 (Snoqualmie Ballrooms): Keynote 2 Session/Plenary

Session IV: Security Protocols and Techniques

10:30-12:00 (Bel-Air) Session Chair: Shamik Sengupta

- *Privacy-Preserving Cybersecurity Information Exchange Mechanism* by Iman Vakilinia, Deepak Tosh and Shamik Sengupta
- *Attribute Based Sharing in Cybersecurity Information Exchange Framework* by Iman Vakilinia, Deepak Tosh and Shamik Sengupta
- *Dimensional Data Model for Early Alerts of Malicious Activities in a CSIRT* by Paúl Valladares, Walter Fuertes, Freddy Tapia, Theofilos Toulkeridis and Ernesto Pérez

12:00-13:30 Lunch

Session V: Wireless Communications and Networking (II)

13:30-15:30 (Bel-Air) Session Chair: Iman Vakilnia

- *Improving Video Streaming Over Cellular Networks with DASH-based Device-to-Device Streaming* by Ala'a Al-Habashna, Gabriel Wainer and Stenio Fernandes
- *Handover Enhancement for LTE-Advanced and Beyond Heterogeneous Cellular Networks* by Baha Uddin Kazi and Gabriel Wainer
- *Estimation of Network Load and Downlink Throughput Using RF Scanner Data for LTE Networks* by Kwangrok Chang and Ragil Wicaksono
- *Dynamic Deployment of UAV-Enabled Floating Access Points for Serving Hot Zones* by Amar Patra and Shamik Sengupta

Session VI: Data Storage

16:00-17:30 (Bel-Air) Session Chair: Floarian Blatt

- *Software Defined Storage: Availability Modeling and Sensitivity Analysis* by Mario Di Mauro, Maurizio Longo, Fabio Postiglione, Giuliana Carullo and Marco Tambasco
- *Disk Failure Prediction in Heterogeneous Environments* by Carlos A. Rincon, Jehan-François Pâris, Ricardo Vilalta, Albert M. K. Cheng and Darrell D. E. Long
- *An Efficient Conflict-Free Memory Address Unit for SIMD DSP* by Hong Ye, Naijie Gu, Xiaoci Zhang and Chuanwen Lin

SPECTS 2017 Agenda

Wednesday, 12 July 2017

Session VII: Wireless Communication Technologies for Smart Connectivity

10:30-12:30

(Bel-Air)

Session Chair: Ala'a Al Habashna

- *A Simulator for UAVs Management in Agriculture Domain* by Floriano De Rango, Nunzia Palmieri, Amilcare Francesco Santamaria and Giuseppe Potrino
- *Investigating Feasibility of Multiple UHF Passive RFID Transmitters Using Backscatter Modulation Scheme in BCI Applications* by Shams Al Ajrawi, Sidhant Mohanty, Mahasweta Sarkar, Ramesh Rao, Albena Mihovska and Harsimran Baweja
- *Impact of Propagation Model on Capacity in Small-Cell Networks* by Sofia Sousa, Fernando J. Velez and Jon M. Peha

12:00-13:30

Lunch

THINGS TO DO IN BELLEVUE

Things to do in Bellevue

Bellevue Botanical Garden

Address: 12001 Main St, Bellevue, WA 98005-3522

Website: <http://www.bellevuebotanical.org/>

Phone: +1 425-452-2750

The Bellevue Botanical Garden is an urban refuge, encompassing 53-acres of cultivated gardens, restored woodlands, and natural wetlands. The living collections showcase plants that thrive in the Pacific Northwest. The demonstration of good garden design and horticulture techniques inspires visitors to create their own beautiful, healthy gardens. They provide a place of beauty, serenity, and learning for thousands of visitors each day. There are many fun things to do throughout the year including plant sales art exhibits.

The Shops at the Bravern

Address: 11111 NE 8th St, Bellevue, WA 98004-4475

Website: <http://thebravern.com/>

The Concierge can assist with multilingual personal shoppers, car service from and to your hotel, and even make a restaurant reservation for you while you shop. They've thought of everything to make your experience an unforgettable one. They offer visitors a complimentary list of shopping and dining perks from retailers and restaurants. Vouchers are available from travel agents and local hotels. The voucher is presented at the Concierge Desk inside the Microsoft Office Towers, along with an out of town ID** within the US or passport with B1/B2 Visa, to receive a welcome gift and to activate the VIP Visitor Rewards.

Downtown Park

Address: 10201 Northeast Fourth St, Bellevue, WA 98005

Website: <https://parks.bellevuewa.gov/planning-and-development/downtown-park>

What started out as a grand idea in 1983 will come "full circle" this summer when the City opens the last major phase of its iconic Downtown Park. See the Complete the Circle web page for more information about this park project

Things to do in Bellevue

Woodinville Wine Tasting

Address: 14700 148th Ave. NE, Woodinville

Website: <https://woodinvillewinecountry.com/>

Woodinville Wine Country is a mere 30 minutes northeast of Seattle, but it might as well be on the other side of the world. This small, scenic valley is where the fruit of Eastern Washington meets the vintners, chefs and flavors of the Pacific Northwest. It's a delicious crossroads of winemaking, microbrewing, fine dining, and the people who pour their heart and soul into them. Explore, experience, and enjoy!

Bellevue Square

Address: Bellevue Way and NE Eighth St., Bellevue, WA

Phone: +1 425-454-8096

Website: <https://bellevuecollection.com/>

The Bellevue Collection makes shopping and dining a family-friendly experience. With family restrooms, complimentary strollers conveniently located at the elevators in the parking garages, and an indoor play area for kids, we're the region's all-in-one destination for everyone. Services provided at the Guest Services Desk: Wheelchairs & Electric Carts (complimentary, first come-first served), Lost & Found, Gift Certificate Sales, Maps and Directions, and Brand List.

Bellevue Arts Museum

Address: 510 Bellevue Way NE, Bellevue, WA 98004-5014

Phone: +1 425-519-0770

Website: <https://www.bellevuearts.org/>

Bellevue Arts Museum is the Pacific Northwest's center for the exploration of art, craft, and design. The Museum's mission is guided by the belief that craft and design are essential to the conversation on art and are equally transformative. From objects made for everyday use to cutting-edge sculpture, furniture, and jewelry, BAM celebrates the creative process, skill, and vision of today's most talented makers. International exhibitions are placed side-by-side some of the region's most promising artists, fostering global exchange and providing a platform for thought-provoking ideas.

Nearby Restaurants

Din Tai Fung

Address: 700 Bellevue Way NE, between 6th St & 8th St, Bellevue, WA 98004-5046

Phone: +1 425-698-1095

Website: <http://dintaifungusa.com/>

Din Tai Fung was founded in Taipei, Taiwan in 1958 as a cooking oil retail shop. In 1972, it transitioned into a full fledged restaurant specializing in soup dumplings and noodles. The restaurant was soon winning rave reviews from all over the world. The tradition of Din Tai Fung continues today in its locations in the United States, Taiwan, Japan, Singapore, South Korea, Australia, Indonesia, Malaysia, China, and Thailand.

John Howie Steak

Address: 11111 NE 8th St Ste 125, Bellevue, WA 98004-4479

Phone: +1 425-440-0880

Website: <http://www.johnhowiesteak.com/>

Experience the Northwest's premier dining experience. Comfortable surroundings, prime custom-aged steaks, side dishes that define culinary excellence and an award winning wine list featuring bottles from near and far. All presented with an unmatched level of service and attention to detail. These are the hallmarks of John Howie Steak. Whether you choose to entertain family, friends or business guests, Howie's staff will work to exceed your expectations.

Daniel's Broiler

Address: 10500 NE 8th St, Bellevue, WA 98004-4345

Phone: +1 425-462-4662

Website: <https://www.schwartzbros.com/locations/daniels-broiler-bellevue/>

Located on the 21st floor of the Bank of America building in the Bellevue Place complex, guests enjoy stunning views of the Olympic Mountains, downtown Bellevue, and the Seattle skyline from our outdoor decks while enjoying USDA Prime Steaks—the top two percent of all graded beef in the nation—as well as other traditional steakhouse favorites and a selection of high-end spirits from our Prime 21 Spirits Lounge.

Nearby Restaurants

Ruth's Chris Steak House

Address: 565 Bellevue Sq, Bellevue, WA 98004-5031

Phone: +1 425-451-1550

Website: <https://www.ruthschris.com/restaurant-locations/bellevue/>

Come enjoy a dinner at Ruth's Chris Steak House located in the center of all the action this city has to offer. Here, you'll dine on the best USDA Prime steaks served on 500° sizzling plates, sip on our award-winning wines, and finish up with one of our signature desserts. They make any occasion an extra-special one, whether you're joining them for a business dinner, a private party or just a drink at the bar. The Bellevue team looks forward to delivering superior service and an exceptional dining experience.

Seastar Restaurant & Raw Bar

Address: 205 108th Ave NE, Bellevue, WA 98004-5770

Phone: +1 425-456-0010

Website: <http://www.seastarrestaurant.com/>

High-end seafood restaurant & raw bar serving small, large & shared plates in an airy, chic space. Chef John Howie's Seastar Restaurant and Raw Bar opened in the Spring of 2002 to incredible accolades and reviews. Since the opening Seastar has received high praise and awards from Wine Spectator, FOOD & WINE, Sunset, and KING 5 Evening Magazine just to name a few.

El Gaucho

Address: 450 108th Avenue NE, Bellevue, WA 98004-5506

Phone: +1 425-455-2715

Website: <http://elgaucho.com/dine/bellevue/>

Walls of windows let in the light by day and candles sparkle at night as El Gaucho set the stage for the ultimate Eastside dining experience, including the attentive tableside service that is the El Gaucho hallmark. Our commitment is to sourcing the finest ingredients—and they proudly source the best products in the world. The menu features fresh seafood selections and 28-day dry-aged Niman Ranch All-Natural Prime Certified Angus Beef® and custom-aged Certified Angus Beef® Tenderloin Filets as personally selected by John Tar-poff.

