SOCIAL and BEHAVIORAL SIMULATION
Hyatt Regency Huntington Beach
Huntington Beach, California
December 6–9, 2015

WSC '15
Winter Simulation Conference ’15
THE PREMIER INTERNATIONAL CONFERENCE
FOR SIMULATION PROFESSIONALS

PRELIMINARY PROGRAM
In conjunction with MASM Conference
Modeling and Analysis for
Semiconductor Manufacturing

WSC 2015 is sponsored by ACM/SIGSIM, ASA, ASIM, IEEE/SMC, IIE, INFORMS-SIM, NIST, and SCS
www.wintersim.org/2015
JOIN US IN HUNTINGTON BEACH, CA, USA AT THE HYATT REGENCY

WSC 2015 will be held in Huntington Beach, CA, December 6-9, at the Hyatt Regency Huntington Beach. The resort is one of Southern California’s most popular seaside destinations, located on the Pacific Coast Highway, which extends along the entire coast of California. Popularly known as “Surf City,” Huntington Beach offers over eight miles of pristine shoreline. The resort has direct access to Huntington Beach and many area attractions.

FEATURING SIMULATION EXPERTS AND THOUGHT LEADERS

WSC 2015 will feature a comprehensive program ranging from introductory tutorials to state-of-the-art research and practice. The conference covers the full range of simulation topics with presentations by top simulation researchers and practitioners, as well as student presentations, exhibits, training sessions by software vendors, business meetings for professional societies, and a great general reception. Our distinguished list of speakers includes:

Joshua Epstein is the Keynote Speaker. Pioneer of the technique of agent-based modeling, considered a transformative innovation, he is Professor of Emergency Medicine at Johns Hopkins University, Director of JHU’s Center for Advanced Modeling and Co-Director of the JHU Systems Institute. He will speak about Agent_Zero, a formal alternative to the rational actor model that has dominated social science since the 1940s. Epstein will discuss the background of Agent_Zero, demonstrate its application to an array of fields, and discuss future research directions including large-scale modeling in the economic, behavioral, and health sciences.

Timothy H. Chung is the Military Track Keynote Speaker and the Deputy Director, Consortium for Robotics and Unmanned Systems Education and Research. He is Deputy Director of the Consortium for Robotics and Unmanned Systems Education and Research (CRUSER) and Assistant Professor of Systems Engineering at the Naval Postgraduate School in Monterey, California. He will address the topic of advancing autonomous swarm capabilities - from simulation to experimentation.

Titans of Simulation

Averill M. Law, the Monday Titan, is the President of Averill M. Law & Associates, the world leader in simulation training. His firm has presented more than 535 seminars in 20 countries on topics such as system design and analysis, model validation, design of experiments, agent-based simulation, simulation management, and software selection. His talk will be on discrete-event and agent-based simulation and where to use each.

Pierre L’Ecuyer, the Tuesday Titan, holds the Canada Research Chair in Stochastic Simulation and Optimization, University of Montreal. He has published more than 240 scientific articles on simulation methods and developed software libraries for analysis of discrete-event simulation. His work touches on many disciplines, including statistics, operations research, economics, and computer science. The talk will give snapshots and expose ideas collected from the author’s journey through stochastic simulation and visit some challenging problems and future opportunities.

MASM CONFERENCE AGAIN JOINS WSC

For the eighth consecutive year, WSC will incorporate the MASM (Modeling and Analysis for Semiconductor Manufacturing) Conference, the leading modeling and analysis meeting specific to global semiconductor manufacturing and supply chain operations.

John Fowler is the MASM Keynote Speaker. He is the Motorola Professor and Chair of the Supply Chain Management Department at Arizona State University. Founding Chair of the first MASM Conference in 2000, he will speak on the history of modeling and simulation of semiconductor manufacturing from its beginnings to the present and the future of MASM.

I look forward to seeing you in Huntington Beach, California, USA, for WSC 2015!

Charles M. Macal, WSC 2015 General Chair
wsc2015chair@gmail.com
KEYNOTE ADDRESS
Monday, December 7

Joshua M. Epstein
Professor of Emergency Medicine, Johns Hopkins University
Director, JHU Center for Advanced Modeling
Co-Director, JHU Systems Institute

Agent_Zero and Generative Social Science

Agent_Zero is a formal alternative to the rational actor model that has dominated social science since the 1940s. This software individual is the first to be endowed with distinct affective, deliberative, and social modules. Grounded in neuroscience, these internal facets interact to produce far-from-rational individual behavior. And when ensembles of these agents interact spatially they generate a panoply of social dynamics from genocide to financial panic to vaccine refusal. Epstein will discuss the background of Agent_Zero, demonstrate its application to an array of fields, and discuss future research directions including large-scale modeling in the economic, behavioral, and health sciences.

Joshua M. Epstein is Professor of Emergency Medicine at Johns Hopkins University, Director of JHU’s Center for Advanced Modeling and Co-Director of the JHU Systems Institute. He holds joint appointments in applied mathematics, civil engineering, economics, environmental health sciences, biostatistics, international health, and as External Professor at the Santa Fe Institute. A pioneer in agent-based modeling, Epstein has authored seminal books including Growing Artificial Societies: Social Science from the Bottom Up, with Robert Axelrod (MIT Press, 1996), Generative Social Science: Studies in Agent-Based Computational Modeling (Princeton Press, 2006); and recently Agent_Zero: Toward Neurocognitive Foundations for Generative Social Science (Princeton University Press, 2013). He holds a Ph.D. from MIT, has taught at Princeton and lectured worldwide. In 2008, he received an NIH Director’s Pioneer Award and in 2010 an Honorary Doctorate of Science from Amherst College, his alma mater.

MILITARY KEYNOTE
Monday, December 7

Timothy H. Chung
Assistant Professor of Systems Engineering, Naval Postgraduate School

Advancing Autonomous Swarm Capabilities: From Simulation to Experimentation

With increasing availability and proliferation of unmanned system technologies, such as unmanned aerial vehicles (UAVs) in civilian and military applications, both opportunities and challenges arise in addressing large numbers of robots capable of collective interactions. We present active research efforts in the Advanced Robotic Systems Engineering Laboratory at the Naval Postgraduate School exploring future concepts, mathematical, algorithmic, and simulation models, and live-fly field experimentation of UAV swarms. We discuss specific considerations for modeling engagements between adversarial swarms of autonomous systems. Such efforts require further development of autonomous swarm tactics, leveraging existing and future enabling technologies in a holistic, system-of-systems context. Further, we will provide results and lessons learned from both extensive simulation-based studies and recent field experiments, as part of a live-fly testbed development effort to support rapid innovation and exploration of such future concepts for advanced research and education.

Timothy H. Chung is an Assistant Professor of Systems Engineering at the Naval Postgraduate School in Monterey, California. His research interests include modeling and analysis of operational settings involving unmanned systems, notably information gathering and sensor fusion for search and detection missions using probabilistic and optimization models. Combining algorithm development with field experimentation, active research pursuits include systems design of large teams of cooperating and adversarial robots. Such efforts involve integration of modeling, algorithms, hardware, simulation, human factors, and control, leveraging extensive research collaborations. He received a Ph.D. and M.S. at the California Institute of Technology in mechanical engineering and a B.S. in mechanical and aerospace engineering at Cornell University.
TITANS OF SIMULATION
Monday, December 7

Averill M. Law
President of Averill M. Law & Associates

Discrete-Event and Agent-Based Simulation and Where to Use Each

Discrete-event simulation (DES) has been used since the late 1950s. In contrast, agent-based simulation (ABS) is much newer but has been the “hottest” topic in simulation since 2005, despite a lack of agreement on what is an agent or ABS. We carefully define DES and ABS, and discuss their similarities/differences. We argue that emergence is not a fundamental tenet of ABS, as is often suggested. We give three general situations where ABS will probably be required, and relate these to actual applications. The talk concludes with a discussion of the most-important developments in simulation technology in the last five years.

Averill M. Law is President of Averill M. Law & Associates, the world leader in simulation training. He has presented 535 simulation seminars in 20 countries on topics such as system design and analysis, model validation, and agent-based simulation. He is the author of the book *Simulation Modeling and Analysis*, with more than 158,000 copies in print and 15,000 citations. He was awarded the 2009 INFORMS Simulation Society Lifetime Professional Achievement Award. Previously, he was a faculty member at University of Wisconsin-Madison and University of Arizona, and has a Ph.D. in operations research from University of California at Berkeley.

TITANS OF SIMULATION
Tuesday, December 8

Pierre L’Ecuyer
Canada Research Chair in Stochastic Simulation and Optimization, University of Montreal
Inria International Chair, Inria Rennes, France

Imitation Challenges: From Uniform Random Variables to Complex Systems

In stochastic simulation, we construct mathematical models to imitate the behavior of real systems, use computers to sample behavioral histories (sample paths) of these models, and exploit those samples to improve decision making with the real system. The imitation part can be very challenging, in particular for modeling uncertainty.

Fitting univariate probability distribution to data is far from sufficient. Modeling the dependence is very important and much more challenging. It involves multivariate distributions, copulas, stochastic processes, and other complicated stochastic objects. Simulating the model on a computer also involves an imitation game, to simulate the realizations of random variables and stochastic processes with deterministic algorithms on a computer. Random number generation involves writing deterministic computer programs that can imitate simple probabilistic models such as independent uniform random variables uniformly distributed over the interval (0, 1). An “exact” algorithmic implementation of such models is theoretically impossible, so we settle for a reasonable fake.

The talk will give snapshots and expose ideas collected from the author’s journey through stochastic simulation. The tour will start with random number generation and visit some challenging problems such as stochastic modeling, simulation-based optimization, rare events, simulation on parallel processors, and future challenges.

Pierre L’Ecuyer is Professor in the Département d’Informatique et de Recherche Opérationnelle, the Université de Montréal, Canada. He holds the Canada Research Chair in Stochastic Simulation and Optimization. He is a member of the CIRRELt and GERAD research centers, and also benefits from an Inria International Chair in Rennes, France. His main research interests are random number generation, quasi-Monte Carlo methods, efficiency improvement via variance reduction, sensitivity analysis and optimization of discrete-event stochastic systems, and discrete-event simulation in general. He is currently Associate Editor for *ACM Transactions on Mathematical Software, Statistics and Computing*, and *International Transactions in Operational Research*. He has published over 250 scientific articles and book chapters, and has been a referee for over 130 different scientific journals.
John Fowler
Motorola Professor and Chair of the Supply Chain Management Department, Arizona State University

**MASM: A Look Back and a Peek Ahead**

The first Winter Simulation Conference (WSC) papers on the use of simulation in semiconductor manufacturing appeared in the late 1980s and then appeared regularly throughout the 1990s. The first WSC track on semiconductor manufacturing was in 1998 and it was repeated in most WSCs over the next decade. The first Modeling and Analysis of Semiconductor Manufacturing (MASM) conference took place in 2000. The focus of the MASM conference was the use of operations research and statistical tools and techniques (including but not limited to discrete event simulation) aimed at improving semiconductor manufacturing operations. In 2008, MASM became a conference within WSC, keeping its focus that is broader than just discrete event simulation applications. In this talk, the history of modeling and simulation of semiconductor manufacturing from the early days to the present time will be discussed. This will include the separate efforts of WSC and MASM and the current combined efforts. Finally, the future of MASM and the possibility of adding some formal structure to the MASM community will be proposed.

John Fowler is the Motorola Professor and Chair of the Supply Chain Management Department at Arizona State University, Tempe AZ. He has published over 100 journal articles and over 100 conference papers in discrete event simulation, deterministic scheduling, and multi-criteria decision making, among others areas. He is a Fellow of the Institute of Industrial Engineers (IIIE). He was the Founding Chair of the first MASM Conference in 2000.
Tracks: Choose from a Full Range of Simulation Topics

With 25 tracks to choose from, you can concentrate on a methodology or application area or sample the most current work from the full range of simulation specialties.

- **Advanced Tutorials** - Philip A. Wilsey, University of Cincinnati
- **Agent-Based Simulation** - Levent Yilmaz, Auburn University; Parastu Kasaie Sharifi, Johns Hopkins University
- **Analysis Methodology** - Bruno Tuffin, Inria; Seong-Hee Kim, Georgia Institute of Technology
- **Big Data Simulation & Decision Making** - Jie Xu, George Mason University; Toyotaro Suzumura, IBM
- **Business Process Modelling** - Benny Tjahjono, Cranfield University; Peer-Olaf Siebers, Nottingham University
- **Case Studies** - Renee M. Thiesing, Simio LLC; Matt Hobson-Rohrer, Diamond Head Associates, Inc.
- **Environmental & Sustainability Applications** - Xiaolin Hu, Georgia State University; Alexandre Muzy, CNRS
- **Gaming & Simulation** - Osman Balci, Virginia Tech
- **General & Scientific Applications** - José Armando B. Monteavachi, UNIFEI; Evelyn Brown, East Carolina University
- **Healthcare Applications** - Simon Taylor & Anastasia Anagnostou, Brunel University; Todd R. Huschka, Mayo Clinic
- **Hybrid Simulation** - Navenil Mustafae, University of Exeter; Sally Brailsford, University of Southampton; Tillal Eldabi, Brunel University
- **Introductory Tutorials** - Marvin Nakayama, New Jersey Institute of Technology
- **Keynotes & Titans** - Charles M. Macal, Argonne National Laboratory; Manuel D. Rossetti, University of Arkansas
- **Logistics, SCM & Transportation** - Kevin Taaffe, Clemson University; Enver Yucesan, INSEAD
- **Manufacturing Applications** - Christoph Laroque, University of Paderborn; Richard Wysk, North Carolina State University; Edward Williams, PMC
- **MASM** - Jesus Jimenez, Texas State University; Kan Wu, Nanyang Technological University; Gerald Waigert, Technische Universität Dresden
- **Military, Homeland Security & Emergency Response Applications** - Todd E. Combs & Matthew Berry, Argonne National Laboratory
- **Modeling Methodology** - Andreas Toik, MITRE Corporation, Inc.; Claudia Szabo, University of Adelaide
- **Networks & Communications** - Christoph Sommer, University of Paderborn
- **Ph.D. Colloquium & Posters** - Nnamdou Sack, Old Dominion University; Esfandyar Mazhari, FedEx Services Corporation; Andrea D’Ambrogio, University of Rome Tor Vergata; Emily Lada, SAS Institute
- **Poster Sessions** - James Thompson, MITRE Corporation
- **Project Management & Construction** - Ian Flood, University of Florida; Ravi S. Srinivasan, University of Florida
- **Simulation Education** - Anders Skoogh, Chalmers University of Technology
- **Simulation Optimization** - Ilya O. Ryzhov, University of Maryland; Sujin Kim, National University of Singapore
- **Social & Behavioral Simulation** - Ugo Merlone, University of Turin; Stephen Davies, University of Mary Washington
- **Vendor Tracks** - Sandy Owens, INFORMS
INTRODUCTORY TUTORIALS

• **Work Smarter, Not Harder: Designing and Conducting Simulation Experiments** - Susan M. Sanchez, Naval Postgraduate School; Hong Wan, Purdue University


• **Simulating Healthcare Systems** - Martha A. Centeno & Kimberly A. Diaz, Universidad del Turabo

• **Verification and Validation of Simulation Models** - Robert G. Sargent, Syracuse University

• **Simulation Metamodeling** - Russell R. Barton, Pennsylvania State University

• **Introduction to Simulation Optimization** - Nanjing Jian & Shane G. Henderson, Cornell University

• **Modeling Dependence in Simulation Input: The Case for Copulas** - Kalyani Nagaraj & Raghu Pasupathy, Purdue University

• **Tips for Successful Practice of Simulation** - David Sturrock, Simio LLC

• **Conceptual Modeling for Simulation** - Stewart Robinson, Loughborough University

• **Introduction to Simulation** - K. Preston White, Jr., University of Virginia; Ricki G. Ingalls, Oklahoma State University

ADVANCED TUTORIALS

• **Understanding the Dynamic Behavior of Three Echelon Retail Supply Chain Disruptions** - John Crowe, Mohammed Mesbab, Amr Arsha, Dublin Institute of Technology (DIT)

• **Inside Discrete-Event Simulation Software: How it Works and Why It Matters** - Thomas Schriber, University of Michigan; Daniel Brunner, Commonwealth Supply Chain Advisors; Jeffrey Smith, Auburn University

• **Simulation with Stochastic Petri Nets** - Vitali Voicu, Independent Consultant

• **Use of the Interval Statistical Procedure for Simulation Model Validation** - Robert G. Sargent, Syracuse University; David M. Goldsman & Tony Yaacoub, Georgia Institute of Technology

• **Bootstrap Confidence Bands and Goodness-of-Fit Tests in Simulation Input/Output Modelling** - Russell CH. Cheng, University of Southampton

• **Random Number Generation with Multiple Streams for Sequential and Parallel Computing** - Pierre L’Ecuyer, University of Montreal

• **Tutorial on a Modeling and Simulation Cloud Service** - Daniel Zeha & Heiko Aydt, TUM CREATE; Wentong Cai, Nanyang Technological University; Alois Knoll, Technische Universität München

• **Parallel and Distributed Simulation** - Richard Fujimoto, Georgia Institute of Technology

• **DEVs Modelling and Simulation for Development of Embedded Systems** - Gabriel Wainer, Carleton University

TUTORIALS BY TOP SCHOLARS AND PRACTITIONERS

WSC offers a comprehensive selection of introductory and advanced tutorials. Here are the topics and instructors for WSC 2015.
PH.D. COLLOQUIUM & POSTER SESSION

Sunday, December 6
Lunch (by invitation): 12:00–1:00pm
Plenary: 1:00–2:00pm
Selected Colloquium Presentations:
2:30–4:00pm (Sessions 1 & 2)
4:30–6:00pm (Sessions 3 & 4)
Poster Session: 6:15–7:30pm

The Ph.D. Colloquium addresses Ph.D. students who are within one year of their graduation (planning to graduate by December 2016). Students close to graduation will be given an opportunity to showcase their work during a short presentation session in the Colloquium (apart from the regular tracks). All Colloquium students will then participate in the Colloquium Poster Session. Presenting Ph.D. efforts to peers and supporting society members will give students valuable feedback, support their research with additional ideas and parallel ongoing work, and introduce them to a network that can be very helpful with careers after graduation.

For more information, go to www.wintersim.org/2015/phdcoll.html.

NEW WORKSHOP!
DATA FARMING 101 WORKSHOP

Sunday, December 6
8:30am–12:00 noon

$85 - includes refreshments - sign up when you register for WSC 2015

Presenters: Susan M. Sanchez, ssanchez@nps.edu and Paul J. Sanchez, pjsanchez@nps.edu, Naval Postgraduate School

The pre-conference Data Farming 101 Workshop is designed for newcomers to simulation experiments. Data farming is the process of using computational experiments to grow data, which can then be analyzed using statistical and visualization techniques to obtain insight into complex systems. The focus of the workshop will be on gaining practical experience with setting up and running a simulation experiment. Participants will be introduced to important concepts, and jointly explore simulation models in an interactive setting. Demonstrations and written materials will supplement guided, hands-on activities through the experiment set up, design, data collection, and analyses phases.

For more information, go to www.wintersim.org/2015/datafarming.html.

SIMULATION 101 WORKSHOP

Sunday, December 6
1:00–7:00pm

$125 - (dinner included) - sign up when you register for WSC 2015

Instructors: Larry Leemis, College of William & Mary, leemis@math.wm.edu; Barry Lawson, University of Richmond, blawson@richmond.edu

The pre-conference Simulation 101 Workshop is designed for newcomers to discrete-event and Monte Carlo simulation. The target audience consists of both technical and non-technical persons who may have a background in computing, engineering, management, mathematics, and/or statistics but who have had minimal exposure to simulation and its applications. Attending this workshop will help newcomers assimilate the technical sessions presented at WSC. By working on specific examples, the focus of the workshop will be on the intuition associated with simulation rather than underlying theory and mathematics. Participants will be introduced to the conceptual, algorithmic, and implementation steps of the development of several simple discrete-event and Monte Carlo simulation models, and will then experiment with those implementations using software developed specifically for the workshop.

For more information, go to www.wintersim.org/2015/sim101.html.

GENERAL POSTER SESSION

Monday, December 8
5:30–7:00pm

The poster session, open to all attendees, offers a timely venue to present and discuss new modeling and simulation research through a forum that encourages graphical presentation, demonstration, and active engagement with participants of the WSC.

A special Poster Briefings session will give the poster presenters an opportunity to present their work to the community in a fast-paced presentation session. Presentations will follow one after another and will set the groundwork for more exciting discussions during the poster session. The Poster Session itself will follow immediately after the Poster Briefings session.

For more information, please go to www.wintersim.org/2015/poster.html.
SHOWCASE SIMULATION PRODUCTS & SERVICES
Examine simulation software, applications, and services at the displays and demonstrations in the Exhibit Hall. Talk informally with cutting-edge developers of leading simulation products. Some of the vendors planning to attend include:

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<tr>
<th>The AnyLogic Company</th>
<th>Forio</th>
<th>Optimal Designs Enterprise</th>
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<tr>
<td>Applied Materials</td>
<td>Frontline Systems, Inc.</td>
<td>ProbabilityManagement.org</td>
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<tr>
<td>Arena Simulation Software</td>
<td>Imagine That Inc.</td>
<td>SAGE</td>
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<td>Averill M. Law &amp; Associates</td>
<td>MOSIMTEC, LLC</td>
<td>SAS</td>
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<td>CreateASoft</td>
<td>Numerus</td>
<td>Simio LLC</td>
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<td>Emulate3D Ltd.</td>
<td>Omnibond</td>
<td>VMS Solutions Co. Ltd.</td>
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<td>FlexSim Software Products, Inc.</td>
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VENDOR TRACKS
Vendors present their products and services using methods and formats customized to best communicate their offerings, including software demonstrations, case studies, customer testimonials, and advanced training. These vendor presentations run concurrently with other sessions. Check www.wintersim.org/2015 for details on each vendor’s session.

USER GROUP MEETINGS
Several vendors offer user group meetings and workshops on Tuesday evening. These are a convenient way to get the latest information on the software you use, share information and advice with other users, and interact directly with the developers and marketers of simulation products.

FREE VENDOR WORKSHOPS - SUNDAY, DECEMBER 6
Take advantage of in-depth training provided by leading simulation software companies. There is no charge for these workshops if you register for WSC 2015. Sign up for any of these workshops when you register for the meeting. If you have already registered, contact Sandy Owens, sandy.owens@informs.org, to add workshops. For complete descriptions of the workshops, go to www.wintersim.org/2015/vendorwkshp.html.

Morning Workshops
10:00am–12:00 noon
- Applied Materials - AutoMod
- Arena (Rockwell)
- Emulate3D
- Forio
- Numerus - Nova

Afternoon Workshops
12:30–2:30pm
- AnyLogic
- FlexSim
- Imagine That - Part 1
- Simio - Teaching Simio Benefits

3:00–5:00pm
- Frontline Systems
- Imagine That - Part 2
- Simio - Innovations

EXHIBIT HOURS
Monday, Dec. 7
9:00am–5:30pm
Tuesday, Dec. 8
9:00am–5:30pm
Wednesday, Dec. 9
9:00–11:30am
To exhibit at WSC 2015, contact:
Sandy Owens
sandy.owens@informs.org

WSC 2015 GOLF TOURNAMENT
Saturday, December 5
Costa Mesa Country Club
(Los Logos Course)
Tee times starting at 10:00am.
$85/person – sign up when you register
Attendees and spouses are invited to play. The format of the tournament will be 4-Person Scramble. Included in the fee are greens fees, cart with GPS, practice balls, and prize fees.

November 1 Registration Deadline
The number of tee times is limited and spots in the tournament will be granted on a first-come, first-served basis. For complete information, go to www.wintersim.org/2015/golf.html.
MODELING AND ANALYSIS OF SEMICONDUCTOR MANUFACTURING

The 2015 International Conference on Modeling and Analysis of Semiconductor Manufacturing (MASM) will again be a forum for the exchange of ideas and best practices between researchers and practitioners from around the world involved in modeling and analysis of high-tech manufacturing systems.

The MASM 2015 conference will be fully contained within WSC 2015. All attendees of the MASM conference will register for WSC 2015 at the same cost. All participants of WSC 2015 can attend MASM 2015 sessions. The MASM conference consists of sessions that include tutorial and related software demonstrations within WSC 2015.

MASM Conference Organizers
Jesus Jimenez, Texas State University
Kan Wu, Nanyang Technological University
Gerald Weigert, Technische Universität Dresden

WSC 2015 VENUE

Hyatt Regency Huntington Beach
21500 Pacific Coast Hwy.
Huntington Beach, CA 92648

The Hyatt Regency is one of Southern California’s most popular seaside destinations, located on the Pacific Coast Highway, which extends along the entire coast of California. Popularly known as “Surf City,” Huntington Beach offers over eight miles of pristine shoreline. The hotel has direct access to Huntington Beach and many area attractions.

Room Rate
$189 single/double, plus taxes

There is no resort fee. Included are high-speed Internet access, bottled water (2 per day), surfboard and golf bag storage, in-room safe, two-for-one half day bicycle rentals, “PrintMe” guest room service, 24-hour fitness center, Pacific Waters Spa access (during opening hours) for sauna and steam rooms, locker room, and shower facilities.

November 1 Cut-Off Date

Go to www.wintersim.org/2015/venue.html to make your reservation. A limited number of rooms have been blocked at the special WSC rate. We anticipate that rooms will sell quickly and advise you to make reservations early, well before the cut-off date of November 1. After that date, reservations will be accepted at prevailing rates on a room-available basis.

RESERVE EARLY
BLOCK WILL SELL OUT QUICKLY

While the cut-off date is November 1, we recommend that you reserve early since rooms in our block are expected to sell quickly and may be gone before the cut-off date. After our block is filled, there may still be rooms available but they will be at significantly higher prevailing rates.
December 6-9, 2015
Hyatt Regency Huntington Beach
Huntington Beach, CA

Advance registration deadline is November 2, 2015. 
This deadline will be strictly enforced.

Last Name ____________________________
First Name __________________________ Middle ______
Nickname for Badge ____________________
Job Title/Position _______________________
Affiliation/Agency/Institution ____________
Address _______________________________
City ____________________________ Zip ______
Country ______________________________
Phone __________ Fax ________________
Email ________________________________

Affiliation
☐ Industrial/Commercial ☐ Academic ☐ Military/Government

How did you hear about the conference?
☐ Website ☐ WSC Emails ☐ Other

Society Membership (Required if paying a member rate)
☐ ACM/SIGM ☐ IE
☐ ASA ☐ INFORMS & INFORMS-Sim
☐ ASIM ☐ NIST
☐ IEE/SMC ☐ SC5

Society Membership Number: ______ (Required if paying a member rate)

Cancellation: Must be received no later than November 16, 2015 for a refund of less $50 processing fee.

PAYMENT
☐ Check Enclosed ☐ Make check payable to INFORMS
☐ AMEX ☐ MasterCard ☐ VISA ☐ Discover

Card Number ___________________________
Expiration ______/____
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Billing Address _________________________

Total Due ______________________________

Complete form and fax to 443-757-3515 
or mail to WSC/INFORMS,
5521 Research Park Drive, Suite 200,
Catonsville, MD, 21228

CONFERENCE REGISTRATION
☐ Member $495 $455
☐ Nonmember $645 $695
☐ Retired Members $185 $235
Members in retired status of a sponsoring society
☐ Student $150 $200
Students must send faculty certification to
meetings@informs.org or fax 443-757-3515

☐ Guest Ticket: Monday Reception
Your conference registration includes admission to the Monday Reception. If you would like a guest(s) to accompany you, please purchase a guest ticket.

_________ Guest Ticket(s) $20

FREE VENDOR WORKSHOPS - Sun., Dec. 6

10:00am - 12:00pm
Choose only one:
☐ Applied Materials-AutoMod
☐ Arena-Rockwell
☐ Emulate3D
☐ Forio
☐ Numerus-Nova

12:30pm - 2:30pm
Choose only one:
☐ Imagine That-ExtendSim 1
☐ AnyLogic
☐ FlexSim
☐ Simio-Teaching Simio Benefits
☐ Numerus - Nova

GOLF TOURNAMENT - Sat., Dec. 5
☐ WSC Golf Tournament, 10:00am tee time $85

WORKSHOPS - Sun., Dec. 6
☐ Data Farming 101, 8:30am - 12:00 pm $85
☐ Simulation 101, 1:00pm - 7:00pm $125

PROCEEDINGS
Proceedings for WSC 2015 will be produced in two formats:
CD and USB key. Please indicate below your choice of format
(selection required)
☐ CD ☐ USB KEY

ADDITIONAL PROCEEDING CD$S
You will receive one WSC 2015 Proceedings as part of your
registration. Additional Proceedings are available only in
CD format.

#_____ Additional Proceedings CD picked up on-site $5
#_____ Additional Proceedings CD mailed $10

Sub Total ____________________________
INFORMS
5521 Research Park Drive, Suite 200
Catonsville, MD, 21228 USA
www.wintersim.org/2015

TAP into the most current research on system simulation.
SHARPEN your skills and knowledge through in-depth tutorials, vendor workshops, and more!
LEARN how to apply simulation strategies in key business applications.
ACCESS the latest products and software solutions in the Exhibit Hall.