



**2020**  
Annual **INCOSE**  
international workshop  
**Torrance, CA, USA**  
January 25 - 28, 2020

# NAFEMS-INCOSE Systems Modeling & Simulation WG

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[www.incose.org/IW2020](http://www.incose.org/IW2020)

# NAFEMS-INCOSE Systems Modeling & Simulation WG CHAIR

Roger Burkhardt (burkhardtrogerm@johndeere.com)



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**MEMBERS**  
200+

## CO-CHAIR

Frank Popielas (frank.popielas@smsthinktank.com)

## INCOSE CONNECT ADDRESS



NAFEMS-INCOSE Modeling &  
Simulation

## INCOSE WEB PAGE



[https://www.nafems.org/community/working-groups/systems\\_modeling/](https://www.nafems.org/community/working-groups/systems_modeling/)

# Charter Summary



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## WG PURPOSE/MISSION

The Systems Modeling & Simulation Working Group (SMSWG) is a collaboration between [NAFEMS](#) (The International Association for the Engineering Modelling, Analysis and Simulation Community) and [INCOSE](#) (the International Council on Systems Engineering). The mission of the SMSWG is to develop a vendor-neutral, end-user driven consortium that promotes the advancement of the technology and practices associated with integration of engineering simulation and systems engineering,

## WG GOAL(S)

The SMSWG supports activities that bridge engineering simulation and systems engineering to optimize the integration of Systems Engineering and Engineering Simulation solutions for both OEM and supplier. This includes education, communication, promotion of international standards, and development of requirements that will have general benefits to the Engineering Simulation and Systems Engineering communities.

## WG SCOPE

Systems Modeling and Simulation (SMS) is the use of interdisciplinary functional, architectural, and behavioral models (with physical, mathematical, and logical representations) in performing Model-Based Systems Engineering (MBSE) to specify, conceptualize, design, analyze, verify and validate an organized set of components, subsystems, systems, and processes. MBSE is the formalized application of modeling to support system requirements, design, analysis, verification and validation activities.

# IW Outcomes



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## IW Outcomes

### Recap of 2019 Accomplishments

- Trifold handout flyer on What is Systems Modeling & Simulation?
- NAFEMS-INCOSE leadership sessions and panel at NAFEMS World Congress (Quebec City, June 2019)
- Monthly online meetings for SMS Community

### Reports from SMSWG Focus Teams

- Roadmap and Sharing of Best Practices
- Terms & Definitions
- Standards Ecosystem

### Standards Working Session

- Model Identity Card
- LOTAR and PDES
- MoSSEC
- NAFEMS Standards Initiative
- FMI, SSP, DCP
- SysML V2
- OSLC
- SysPhs

### Planning for 2020 Activities

# Planned Work past IW



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## PLANNED ACTIVITIES

SMSWG Program at NAFEMS Americas Conference on Advancing Analysis & Simulation in Engineering (CAASE) 2020 (June 16-18, 2020; Indianapolis, Indiana (<https://www.nafems.org/events/nafems/2020/caase20/>))

SMSWG presence and activities at INCOSE International Symposium

Monthly online meetings for SMS Community members

Support of NAFEMS-INCOSE leadership discussions on additional areas of collaboration under the MoU (Membership, Certification, Training, ...)

## PLANNED WORK PRODUCTS

Trifold flyer on "What is Model-Based?" (MBx Terms & Definitions)

User scenarios and validation cases for SMS-related standards

Proposed special issue of INCOSE Insight on Modeling & Simulation

Proposed contributions to NAFEMS Benchmark Magazine