Panel: Challenges in Satisfying the Need and Promotion of Modeling & Simulation Workforce

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Arizona State University, Tempe, AZ, USA

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Intel Corporation, Chandler, AZ, USA

James Nutaro  
Oak Ridge National Lab, Oak Ridge, TN, USA

Akshay Rajhans  
MathWorks Corporation, Natick, MA, USA
Panel: Challenges in Satisfying the Need and Promotion of Modeling & Simulation Workforce

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Stakeholders (A View)

Akshay Rajhans  
*MathWorks Corp.*

Ed Yellig  
*Intel Corp.*

Hessam Sarjoughian  
*Arizona State Univ.*

https://www.ntsa.org/cmsp  
ACM, IEEE, Informs, SCS, ...

James Nutaro  
*Oak Ridge Nat. Lab.*
models of systems are instrumental

→ posing useful questions

→ finding practical answers

→ Models at multiple levels of abstraction are needed

→ Executions of different model types are needed
University Programs (not exhaustive)

- Arizona State University

- Georgia Tech Professional Education
  - Certificate

- Naval Postgraduate School: Modeling, Virtual Environments and Simulation (MOVES)
  - Certificate, MS, PhD

- Old Dominion Univ.
  - Certificates, MS, PhD, and D. Engr., College of Engr. & Tech.

- Portland State University
  - Computer Modeling and Simulation

- Roger William University
  - BS (Major, Minor), Dept. of Mathematics, School of Social and Natural Sciences

- University of Alabama, Huntsville
  - Certificate

- Univ. of Central Florida
  - MS and PhD, Certificates in Cybersecurity and Technical Systems

- University of Pittsburg
  - PhD, Computation modeling and simulation, School of Computing and Informatics

- Univ. of Wisconsin
  - MS, Modeling and Simulation in Mechanical Engineering
### Part I

Survey is from the Modeling & Simulation perspective

<table>
<thead>
<tr>
<th>Very likely to very unlikely growth in (5-1)</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
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</thead>
<tbody>
<tr>
<td>demand for professionals</td>
<td>○</td>
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<td>demand for basic research</td>
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<td>demand for applied research</td>
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<td>demand in practices</td>
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<td>demand in advanced tools</td>
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<td>demand in continuing education</td>
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**Anonymous Survey (open through 12/31/2021)**

<table>
<thead>
<tr>
<th>Strongly agree to strongly disagree M&amp;S (5-1)</th>
<th>5</th>
<th>4</th>
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<td>should be a discipline</td>
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<td>Should be a niche for a part of every specific science and engineering area</td>
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<td>should be considered primarily as software engineering</td>
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<td>should be considered primarily as a part of systems engineering</td>
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Part II: M&S Education Offerings should be offered at what level(s)?

Strongly Agree to Strongly Disagree (5–1)

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<tr>
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undergraduate

masters

Ph.D.

certificate
Part III: Observations and Comments

Description (optional)

Observations and Comments

Long answer text

https://tinyurl.com/yar6k6fu

Open through 12/31/2021
Future of M&S Workforce ...