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Alejandro Salado, PhD

Personal Summary

I am a researcher, teacher, and consultant in/of systems engineering. My research focuses on applying decision analysis to improve the practice of engineering. I am pioneering research in the area of verification and validation, looking at how engineers generate and evaluate evidence and how they build trust. My approach in this endeavor is transdisciplinary and intersects mathematical foundations, decision analysis and methods, and behavioral and cognitive models. In addition, I am engaged in developing disruptive educational approaches to smooth the transition of students to engineering work, as well as to build up capabilities to operationalize engineering ethic responsibility.

Before joining academia, I spent over ten years as a systems engineer, system architect, and chief systems engineer in the space industry in Europe. Those endeavors enabled me to get exposed to all system's life cycle phases in several manned and unmanned space systems of up to \$1b. I use this experience to inform my research and teaching, aiming at bridging the needs of industry with the necessary academic rigor.

Education

Stevens Institute of Technology, Hoboken, NJ, USA

Ph.D., Systems Engineering 2014

Polytechnic University of Catalonia, Barcelona, Spain

M.S., Electronics Engineering 2010

M.S., Project Management 2009

Technical University of Delft, Delft, The Netherlands

M.Eng., Space Systems Engineering 2008

Polytechnic University of Valencia, Valencia, Spain

B.S./M.S., Electrical and Electronics Engineering 2007

Academic Experience

Virginia Tech, Blacksburg, VA, USA

Affiliate Faculty, Department of Engineering Education 2017–present

Affiliate Faculty, Center for Space Science and Engineering Research 2017–present

Affiliate Faculty, Hume Center for National Security and Technology 2017–present

Assistant Professor, Department of Industrial and Systems Engineering 2015–present

Universidad Europea de Madrid, Madrid, Spain

Adjunct Professor, MS in Systems Engineering 2019–present

University of South East Norway, Kongsberg, Norway

Industry Professor, Norwegian Institute of Systems Engineering 2013–2015

Universidad Pontificia de Comillas, Madrid, Spain

Adjunct Professor, ICAI 2012

Industrial Experience

OHB System AG, Munich, Germany

Systems Engineer, Systems Engineering Office 2012–2015

EADS Astrium GmbH, Munich, Germany

Satellite Systems Engineer, Department of Satellite Engineering 2008–2012

NTE-SENER S.A., Barcelona, Spain

Electronics Engineer, Instrumentation Department 2006–2008

Systems Engineer, Instrumentation Department 2006–2008

	<i>Project Manager, Instrumentation Department</i>	2006–2008
	Delta-Utec SRC, Leiden, The Netherlands	
	<i>Electronics Engineer, YES2 Office</i>	2005–2006
	European Space Agency, Noordwijk, The Netherlands	
	<i>Electrical Systems Engineer (intern), Education Office and Test Center</i>	2005
Awards	<i>Two papers included in the Best Papers of 2018 issue, Systems Engineering (INCOSE Journal by Wiley)</i> <i>Best Paper Award Runner Up, ASEE Conference, IE Division</i> <i>CAREER Award, National Science Foundation (NSF)</i> <i>Senior Member, American Institute of Aeronautics and Astronautics (AIAA)</i> <i>Exemplary SE Doctoral Dissertation, Omega Alpha Association</i> <i>New Attendee Travel Award, ASEE Conference, IE Division</i> <i>Best Paper Award, ASEE Conference, IE Division</i> <i>New IE Educator Outstanding Paper Award, ASEE Conference, IE Division</i> <i>Senior Member, Institute of Electrical and Electronics Engineers</i> <i>Senior Member, Institute of Industrial and Systems Engineers</i> <i>Teacher of the Week, Virginia Tech, CIDER</i> <i>Best Academic Paper, Conference on Systems Engineering Research</i> <i>Best Presentation, European Space Weather Week</i> <i>Outstanding Dissertation Award, Stevens Institute of Technology, SSE</i> <i>Best Student Paper Award, Stevens Institute of Technology, SSE</i> <i>The Fabrycky-Blanchard Award, Stevens Institute of Technology, SSE</i> <i>Fulbright International Science and Technology Award, Inst. of Intern. Education</i> <i>Longest Manmade Structure Ever Deployed in Space, World Record Guinness</i>	2019 2019 2019 2018 2017 2017 2017 2017 2016 2016 2016 2015 2014 2014 2014 2014 2010 2009
Professional Societies	International Council on Systems Engineering (INCOSE)	
	Membership Levels	
	<i>Member, INCOSE</i>	2009–present
	Officer Positions	
	<i>Assistant Director, Student Divisions</i>	2018–present
	<i>INCOSE Liaison to ISO WG7, INCOSE's Standards Initiative</i>	2017–present
	<i>Organizing Member, SEANET</i>	2016–present
	American Society of Engineering Education (ASEE)	
	Membership Levels	
	<i>Member, ASEE</i>	2016–present
	Officer Positions	
	<i>Division Chair, Systems Engineering Division</i>	2019–present
	<i>Program Chair, Systems Engineering Division</i>	2018–2019
	<i>Treasurer/Secretary, Systems Engineering Division</i>	2017–2018
	American Institute of Aeronautics and Astronautics (AIAA)	
	Membership Levels	
	<i>Senior Member, AIAA</i>	2018–present
	<i>Member, AIAA</i>	2014–2015
	Technical Committee Assignments	
	<i>Member, Systems Engineering Technical Committee</i>	2018–present
	American Society of Engineering Management (ASEM)	
	Membership Levels	
	<i>Member, ASEM</i>	2017–present
	Institute of Industrial and Systems Engineers (IISE)	

Professional Service

Membership Levels

Senior Member, IISE

2016–present

Member, IISE

2016

Institute for Electrical and Electronics Engineers (IEEE)

Membership Levels

Senior Member, IEEE

2016–present

Member, IEEE

2015–2016

Student Member, IEEE

2002–2004

Society Membership

Member, IEEE Systems, Man, and Cybernetics Society

2015–present

Editorship

Engineering Management Journal

Associate Editor, Systems Engineering

2017–present

Conference Service

Conference Leadership

Technical Co-chair, Conference on System Engineerig Research (CSER)

2019

Workshop Co-chair, ASEM Annual Conference

2017

Technical Program Committee Member

Conference on Systems Engineering Research (CSER)

2018–present

IEEE International Symposium on Systems Engineering

2015–present

INCOSE International Symposium

2009, 2017–present

Annual Conference on System of Systems Engineering

2014–present

CESUN Annual Conference

2014

ASEE Conference

2017

Reviewer

Books

Addison Wesley

2013

Universidad Pontificia de Comillas

2013

Journals

Systems Engineering

2015–present

IEEE Systems Journal

2015–present

IEEE Transactions on Systems, Man, and Cybernetics: Systems

2015, 2016

Systems Research and Behavioral Science

2016

Systems

2017

Engineering Management Journal

2017–present

Expert Systems with Applications

2017–present

IEEE Geoscience and Remote Sensing Magazine

2017

Journal of Spacecraft and Rockets

2017–present

SpringerPlus

2016

Frontiers of Computer Science

2014

Research Grants

Agency for Healthcare Research and Quality (AHRQ)

2018

National Science Foundation (NSF)

2018

Standards Bodies

Reviewer, Engineerig Management Body of Knowledge (EMBoK)

2018

Member, ISO/IEC JTC 1/SC 7 Software and systems engineering; WG 7 Life cycle man-
agement) 2017–present

Co-Editor, ISO/IEC/IEEE 21840:201x(X) Systems Engineering - Guide for the utilization
of ISO/IEC/IEEE 15288 in the context of System of Systems Engineering 2017–present

University Service

Committees and Advisor Roles

<i>Co-Director, Systems Engineering Program, Industrial and Systems Engineering</i>	2017–present
<i>Member, Systems Engineering Advisory Council, Virginia Tech</i>	2017–present
<i>Member, Undergraduate Curriculum Redesign Committee, Industrial and Systems Engineering</i>	2016–present
<i>Member, Undergraduate Program Committee, Industrial and Systems Engineering</i>	2015–2017
<i>Advisory Group, Connected Classroom Committee</i>	2017–present

Faculty Search Committees

<i>Chair, Open Rank Professor of Practice in Systems Engineering, Industrial and Systems Engineering</i>	2019–Present
<i>Member, Open Rank Tenure Track Faculty, Engineering Education</i>	2018–2019
<i>Member, Decision Analysis Faculty, Industrial and Systems Engineering</i>	2017–2018

Major Consulting

<i>Independent Consultant, Mayfair Group LLC</i>	2019–present
<i>Independent Consultant, Thales Alenia Space Belgium</i>	2019–present
<i>Founding Member Academic Advisory Board, CATIA No Magic, Inc.</i>	2019–present
<i>Independent Consultant, Thales Alenia Space France</i>	2019–present
<i>Independent Consultant, Apple Inc.</i>	2018–2019
<i>Independent Consultant, Thales Alenia Space Spain</i>	2016–Present

Teaching

Curriculum Development

<i>Decision Analysis for Engineers, Virginia Tech, MS Systems Engineering</i>	2017
<i>Leadership and Communication, Universidad Pontificia de Comillas, MS Project Management</i>	2011

University Courses

<i>Special Study: Decision Analysis for Engineers, Virginia Tech</i>	2017
<i>Global Issues in Industrial Engineering (ISE 4304), Virginia Tech</i>	2016-present
<i>Systems Engineering Process (ENGR 5004), Virginia Tech</i>	2016, 2017
<i>Fundamentals of Systems Engineering (SEFS 6102), University of South-East Norway</i>	2013–2015
<i>Leadership and Communication, Universidad Pontificia de Comillas</i>	2012

Sponsored Research

\$1.8M Personal Share Grant Awards (Total \$2.0M)

1. J. Little, J. Shortridge, A. Salado, A. Sandu, B. Watford, “Planning Grant: Engineering research center for managing complex socio-environmental problems using a generic, tiered system-of-systems (GTSoS) modeling and data-science framework,” National Science Foundation (NSF), **\$100K**, 2019
2. L. Freeman, A. Salado, “Incubator Project: Verification & Validation (V&V) / Test & Evaluation (T&E) Competencies,” Systems Engineering Research Center (SERC), **\$22K**, 2019
3. A. Salado, “Assisted Model-Based Systems Engineering (A-MBSE),” Naval Engineering Education Consortium (NEEC), **\$474K**, 2019–2022
4. A. Salado, “CAREER: Belief Formation in Verification Strategies and the Evaluation of Verification Evidence,” National Science Foundation (NSF), **\$500K**, 2019–2024
5. A. Salado, C. Woolsey, M. Blanks, J. Coggin, R. Briggs, “Airworthiness Standards and Metrics to Provide Acceptable Level of Risk to Third Parties,” U.S. Naval Air Systems Command (NAVAIR), **\$191K**, 2018–2019

6. A. Salado, "Unintended Vulnerabilities of Digital Twins," Northrop Grumman Corporation, **\$20K**, 2018
7. A. Salado, "Automatic Generation of Contractual Requirements from MBSE Artifacts," Naval Postgraduate School (NPS), **\$119K**, 2018-2019
8. A. Salado, "Collaborative Research: Maximizing the Expected Value of Engineered Systems Through Coordinated Verification," National Science Foundation (NSF), **\$299K**, 2018-2021
9. A. Salado, "Dynamic Contracting of Verification Activities by Applying Set-based Design to the Definition of Verification Strategies," Naval Postgraduate School (NPS), **\$119K**, 2018-2019
10. A. Salado, "Tradespace Exploration for Better Verification Strategies," Naval Postgraduate School (NPS), **\$120K**, 2017-2018
11. A. Salado, "Vulnerability, Risk and Resilience Approaches for Bioenergy Resource Supply Chain and Logistics," Oak Ridge National Lab (ORNL), **\$102K**, 2016-2018

Books

Book Chapters

1. J. Schreiner, A. Salado, "Systems Engineering," in H. Shah (Ed.), *A Guide to the Engineering Management Body of Knowledge, 5th Edition*, (In press), Huntsville, AL, USA: The American Society for Engineering Management, 2019
2. A. Salado, "Communication and leadership," in A. Sols, I. Fernandez, and J. Romero (Eds.), *Integral Project Management*, (pp. 261-287), Madrid, Spain: Universidad Pontificia de Comillas, 2013

Journal Papers

Under Submission

1. P. Xu, J.-H. Cho, A. Salado, "Expert Opinion Fusion Framework using Subjective Logic for Fault Diagnosis," *IEEE Transactions on Cybernetics*, under review
2. J.R. Morelock, A. Salado, A. Lakeh, "Demonstrating the elusive outcomes of decision-making, information-seeking, and adaptability: A market simulation game for engineering students," *Advances in Engineering Education*, under review
3. A.U. Kulkarni, C. Wernz, A. Salado, "Coordination of Distributed Verification Activities in Systems Engineering Projects," *Research in Engineering Design*, under review

Published or Accepted for Publication

1. L. Iandoli, A. Salado, G. Zollo, "The role of aesthetic reasoning in Knowledge Management: the case of elegant systems architecture design," *Knowledge Management Research and Practice*, In press, 2019
2. T. McDermott, A. Salado, "A Perspective on Systems Thinking, Architecting, and Art," *Systems Research and Behavioral Science* 36: 1-8, 2019
3. F. Farkhondehmaal, A. Salado, "Efficient Population of the Verification Tradespace Using Bayesian Inference," *IEEE Systems Journal*, In press, 2019
4. A. Sols, A. Salado, "Integrating Reliability in Systems Engineering Management," *Engineering Management Journal* 31: 207-221, 2019
5. A. Salado, P. Wach, "Constructing True Model-Based Requirements in SysML," *Systems* 7: 19, 2019

6. A. Salado, H. Kannan, "Elemental Patterns of Verification Strategies," *Systems Engineering* 22: 370-388, 2019
7. A. Salado, A. Chowdhury, A. Norton, "Systems Thinking and Authentic Mathematical Problem Solving," *School Science and Mathematics Journal* 119: 49-58, 2019
8. A. Salado, H. Kannan, "A Mathematical Model of Verification Strategies," *Systems Engineering* 21: 593-608, 2018
9. B.A. Delicado, A. Salado, R. Mompo, "Conceptualization of a T-Shaped Engineering Competency Model in Collaborative Organizational Settings: Problem and Status in the Spanish Aircraft Industry," *Systems Engineering* 21: 534-554, 2018
10. L. Iandoli, L. Piantedosi, A. Salado, G. Zollo, "Elegance as Complexity Reduction in Systems Design," *Complexity* 2018:1-10, 2018
11. A. Salado, R. Nilchiani, "Understanding How Problem Formulation in Systems Engineering Influences System Affordability: A Systems Thinking Investigation," *International Journal of Applied Systemic Studies* 7: 227-256, 2017
12. A. Salado, R. Nilchiani, D. Verma, "A Contribution to the Scientific Foundations of Systems Engineering: Solution Spaces and Requirements," *Journal of Systems Science and Systems Engineering* 26: 549-589, 2017
13. A. Salado, R. Nilchiani, "Reducing Excess Requirements through Orthogonal Categorizations during Problem Formulation: Results of a Factorial Experiment," *IEEE Transactions on Systems, Man, and Cybernetics: Systems* 47: 405-415, 2017
14. A. Salado, R. Nilchiani, "The Tension Matrix and the Concept of Elemental Decomposition: Improving Identification of Conflicting Requirements," *IEEE Systems Journal* 11: 2128-2139, 2017
15. A. Salado, "Defining Better Test Strategies with Tradespace Exploration Techniques and Pareto Fronts: Application in an Industrial Project," *Systems Engineering* 18: 639-658, 2016
16. A. Salado, R. Nilchiani, "Adaptive Requirements Prioritization (ARP): Improving Decisions between Conflicting Requirements," *Systems Engineering* 18: 472-490, 2015
17. A. Salado, R. Nilchiani, "The Concept of Order of Conflict in Requirements Engineering," *IEEE Systems Journal* 10: 25-35, 2015
18. A. Salado, R. Nilchiani, "A Categorization Model of Requirements Based on Max-Neefs Model of Human Needs," *Systems Engineering* 17: 348-360, 2014

Conference Papers

Under Submission

1. P. Wach, A. Salado, "The Need for Semantic Extension of SysML to Model the Problem Space," *Conference on Systems Engineering Research (CSER)*, Redondo Beach, CA, USA, 2019, under review
2. P. Wach, A. Salado, "Model-Based Security Requirements for Cyber-Physical Systems in SysML," *IEEE-INCOS-NDIA Systems Security Symposium*, Crystal City, VA, USA, 2019, under review

Published or Accepted for Publication

1. P. Xu, A. Salado, "A Concept for Set-based Design of Verification Strategies," *INCOS-International Symposium*, Orlando, FL, USA, 2019, Accepted
2. A. Salado, A. Katz, "Monetizing Life Might Be the Ethical Thing to Do," *ASEE Annual Conference and Exposition*, Tampa, FL, USA, 2019, Accepted

3. K. Davis, A. Salado, "Lessons Learned from a First Attempt to Teach Systems Engineering as a Studio Art Class," ASEE Annual Conference and Exposition, Tampa, FL, USA, 2019, Accepted
4. A. Salado, P. Wach, "Template and Process for the Automatic Generation of Contractual Requirements from MBSE Artifacts," Acquisition Research Symposium, Monterey, CA, USA, 2019
5. P. Xu, A. Salado, "Towards the Dynamic Contracting of Verification Activities with Set-Based Design: An Initial Model of Rework," Acquisition Research Symposium, Monterey, CA, USA, 2019
6. P. Wach, A. Salado, "Can Wymores Mathematical Framework Underpin SysML? An Initial Investigation of State Machines," Conference on Systems Engineering Research (CSER), Washington, DC, USA, 2019
7. A. Salado, "An Elemental Decomposition of Systems Engineering," IEEE International Symposium on Systems Engineering, Rome, Italy, 2018
8. A. Salado, H. Kannan, "Properties of the Utility of Verification," IEEE International Symposium on Systems Engineering, Rome, Italy, 2018
9. D.S. Ozkan, C. Gewirtz, H.G. Murzi, A. Salado, "Reality Gaps in Industrial Engineering Senior Design or Capstone Projects," ASEE Annual Conference and Exposition, Salt Lake City, UT, USA 2018
10. A. Salado, F. Farkhondehmaal, "A Mathematical Framework to Apply Tradespace Exploration to the Design of Verification Strategies," Acquisition Research Symposium, Monterey, CA, USA, 2018
11. A. Salado, T. McDermott, K. Davis, A. Moral, "Why Not Teaching System Architecting as a Studio Art Class?," Conference on Systems Engineering Research (CSER), Charlottesville, VA, USA, 2018
12. P. Wach, A. Salado, "A Research Plan to Discover Patterns of Unknown Vulnerabilities Associated with Adopting Model-Based Systems Engineering," Conference on Systems Engineering Research (CSER), Charlottesville, VA, USA, 2018
13. A. Salado, H. Kannan, F. Farkhondehmaal, "Capturing the Information Dependencies of Verification Activities with Bayesian Networks," Conference on Systems Engineering Research (CSER), Charlottesville, VA, USA, 2018
14. T. McDermott, A. Salado, "Art and Architecture: Effectively Communicating System Models," 12th Annual IEEE International Systems Conference, Vancouver, British Columbia, Canada, 2018
15. T. McDermott, A. Salado, "Improving the systems thinking skills of the systems architect via aesthetic interpretation of art," INCOSE International Symposium, Adelaide, Australia, 2017
16. A. Salado, "Industrial Engineering beyond Numbers: Optimizing under Ethics," ASEE Annual Conference and Exposition, Columbus, OH, USA, 2017
17. A. Salado, J.R. Morelock, A.B. Lakeh, "Decision-Making, Information Seeking, and Compromise: A Simulation Game Activity in Global Industrial Management," ASEE Annual Conference and Exposition, Columbus, OH, USA, 2017
18. J. Sutherland, A. Salado, K. Oizumi, K. Aoyama, "Implementing Value-Driven Design in Modelica for a Racing Solar Boat," Conference on Systems Engineering Research, Los Angeles, CA, USA, 2017
19. A. Pugliese, A. Salado, R. Nilchiani, "Effects of Fractionation on System Security in Space Systems," AIAA Space Conference and Exhibition, Long Beach, CA, USA, 2016

20. A. Salado, L. Iandoli, G. Zollo, "Painting Systems: From Art to System Architecting," INCOSE International Symposium, Edinburgh, UK, 2016
21. A. Salado, "Exile: A Natural Consequence of Autonomy and Belonging in Systems-of-Systems," 10th Annual IEEE International Systems Conference, Orlando, FL, USA, 2016
22. A. Salado, "Applying Tradespace Exploration to Verification Engineering: From Practice to Theory and Back Again," Conference on Systems Engineering Research, Huntsville, AL, USA, 2016
23. A. Salado, "Integrating Design and Verification Decisions in Value-Driven Design to Increase Systems Expected Value," Conference on Systems Engineering Research, Huntsville, AL, USA, 2016
24. A. Salado, C. Salado, "Systems Engineering Practices Exhibited in the Creation of a Film Original Score," INCOSE International Symposium, Seattle, WA, USA, 2015
25. A. Salado, R. Nilchiani, "A Set of Heuristics to Support Early Identification of Conflicting Requirements," INCOSE International Symposium, Seattle, WA, USA, 2015
26. A. Salado, "Abandonment: A Natural Consequence of Autonomy and Belonging in Systems of Systems," 10th System of Systems Engineering Conference (SoSE), San Antonio, TX, USA, 2015
27. A. Salado, R. Nilchiani, "On the Evolution of Solution Spaces Triggered by Emerging Technologies," Conference on Systems Engineering Research, Hoboken, NJ, USA, 2015
28. A. Salado, R. Nilchiani, "A Research on Measuring and Reducing Problem Complexity to Increase System Affordability: From Theory to Practice," Conference on Systems Engineering Research, Hoboken, NJ, USA, 2015
29. A. Salado, R. Nilchiani, "Categorizing Requirements to Increase the Size of the Solution Space: Moving Away from NASA and ESAs Requirements Categorization Models," 6th International Systems and Concurrent Engineering for Space Applications Conference (SECESA), Stuttgart, Germany, 2014
30. A. Salado, "An Effective Approach to Explore Conceptual Solutions in Systems of Systems and Identification of Key Drivers," 6th International Systems and Concurrent Engineering for Space Applications Conference (SECESA), Stuttgart, Germany, 2014
31. A. Salado, "Effective and Efficient System Integration and Verification Planning Using Integrated Model Centric Engineering: Lessons Learnt from a Space Instrument," 6th International Systems and Concurrent Engineering for Space Applications Conference (SECESA), Stuttgart, Germany, 2014
32. A. Salado, R. Nilchiani, "Increasing the probability of developing affordable systems by maximizing and adapting the solution space," Conference on Systems Engineering Research, Los Angeles, CA, USA, 2014
33. A. Salado, R. Nilchiani, "The concept of problem complexity," Conference on Systems Engineering Research, Los Angeles, CA, USA, 2014
34. A. Salado, R. Nilchiani, "Using Requirements-Induced Complexity to Anticipate Development and Integration Problems: Analysis of Past Missions," AIAA Space Conference and Exhibition, San Diego, CA, USA, 2013
35. A. Salado, R. Nilchiani, "Fractionated Space Systems: Decoupling Conflicting Requirements and Isolating Requirement Change Propagation," AIAA Space Conference and Exhibition, San Diego, CA, USA, 2013
36. A. Salado, R. Nilchiani, "Assessing the Impacts of Uncertainty Propagation to System Requirements by Evaluating Requirement Connectivity," INCOSE International Symposium, Philadelphia, PA, USA, 2013

Intellectual Property

Media and Talks

37. A. Salado, "Efficient and Effective System Integration and Verification Planning Using a Model-Centric Environment," INCOSE International Symposium, Philadelphia, PA, USA, 2013
38. A. Salado, R. Nilchiani, "Contextual- and behavioral-centric stakeholder identification," Conference on Systems Engineering Research, Atlanta, GA, 2013
39. A. Salado, R. Nilchiani, "Using Maslows hierarchy of needs to define elegance in system architecture," Conference on Systems Engineering Research, Atlanta, GA, 2013
40. A. Salado, R. Nilchiani, "Elegant Space Systems: How Do We Get There?," IEEE Aerospace Conference, Big Sky, MT, USA, 2013
41. A. Salado, R. Nilchiani, M. Efatmaneshnik, "Taxonomy and Categorization of Uncertainties in Space Systems with an Application to the Measurement of the Value of Adaptability," AIAA Space Conference and Exhibition, Pasadena, CA, USA, 2012

Invention Disclosures

1. A. Salado, "Self-holding Travel Blanket," Virginia Tech Intellectual Properties Disclosure 18-007, 2017

Keynote Speaker

1. "Systems Engineering as a Vehicle to Lead Change in Highly Complex Environments," I National Conference on Systems Engineering, Madrid, Spain, October 2018
2. "Balancing Job and Stevens. Chapter 3: How to get a PhD in 4-1 years and still keep your job and your family and what comes next," Doctoral Research Symposium at Stevens Institute of Technology, Hoboken, NJ, May 2018
3. "Balancing Job and Stevens (II): How to get a PhD in 4 1 years and still keep your job and your family," Doctoral Research Symposium (DRS@SSE), Stevens Institute of Technology, Hoboken, NJ, USA, May 2014

Distinguished Lectures / Featured Speaker

1. "From Requirement Models to Contracts," No Magic World Symposium, Allen, TX, May 2018
2. "The Digital Influence on Systems Engineering: Research, Practice, and A Vision for the Future," Naval Surface Warfare Command Dahlgren Division, Dahlgren, VA, Apr 2018

Panels

1. "Beyond Space and Weapons: System Engineering in the Commercial Enterprise," INCOSE International Symposium, Orlando, FL, USA, Jul 2019
2. "Art in Engineering," CASE: Complex Aerospace Systems Exchange, AIAA SciTech, San Diego, CA, USA, Jan 2019
3. "Investigating Approaches to Advance Knowledge and Maturity in Systems Engineering," ASEE Annual Conference and Exposition, Salt Lake City, UT, USA, Jun 2018
4. "DGBL and Gamification in Engineering Education," Virginia Tech, Blacksburg, VA, USA, Sep 2016
5. "International Differences in Engineering Education Workshop," Cornell University, Ithaca, NY, USA, Aug 2016

6. "Establishing an interdisciplinary academic career in engineering systems: Challenges and Opportunities," Industrial and Systems Engineering Research Conference (ISERC), Anaheim, CA, USA, May 2016
7. "Elegance is not a Luxury," IEEE Aerospace Conference, Big Sky, MT, USA, March, 2013

Seminars

1. "Framing (and modeling) the Problem: Eliciting needs and deriving requirements," INCOSE International Symposium, Orlando, FL, USA, July 2019
2. "What is Systems Engineering?," IE Seminar (graduate course), Virginia Tech, Blacksburg, VA, USA, November 2018
3. "Re-understanding Engineering: From Problem Solving to Decision Making," Universidad Europea de Madrid, Madrid, Spain, July 2018
4. "The Value of Verification," Clemson University, Clemson, SC, Apr 2018
5. "Doing a successful PhD, having fun, having a life (and keeping your job, if you have one!)," Institute for Operations Research and the Management Sciences (INFORMS) Student Chapter Seminar Series, Virginia Tech, Blacksburg, VA, USA, Apr 2018
6. "International Engineering," Global Engineering Practice: Leadership and Culture (undergraduate course), Virginia Tech, Blacksburg, VA, USA, Apr 2018
7. "Authentic Engineering," VT CORE Student Association, Blacksburg, VA, Mar 2018
8. "Systems Engineering Research with Data: From Ideas to Operationalization," The Mitre Corporation, McLean, VA, Jan 2018
9. "Systems Engineering to Become a Systems Integrator," Thales Alenia Space Spain, Madrid, Spain, Dec 2017
10. "A Research Program for Verification and Validation," NASA Systems Engineering Consortium, University of Alabama in Huntsville, Huntsville, AL, USA Nov 2017
11. "From Decision Analysis to Mindfulness: Letting Go to Improve System Development," Vitech Corporation, Webinar Series, Oct 2017
12. "What is Systems Engineering?," IE Seminar (graduate course), Virginia Tech, Blacksburg, VA, USA, Oct 2017
13. "Educating Engineers to Do Engineering," Department of Engineering Education, Virginia Tech, Blacksburg, VA, USA, Sep 2017
14. "International Engineering," Global Engineering Practice: Leadership and Culture (undergraduate course), Virginia Tech, Blacksburg, VA, USA, Apr 2017
15. "Cultural Differences in Project Management," Master in Project Management (graduate course), ICADE Business School, Universidad Pontificia de Comillas, Madrid, Spain, Nov 2016
16. "Introduction to Systems Engineering," Senior Design Project I (undergraduate course), Virginia Tech, Blacksburg, VA, USA, Sep 2016
17. "Towards A Theory of Verification and Validation: Research Gaps and Challenges," Institute for Operations Research and the Management Sciences (INFORMS) Student Chapter Seminar Series, Virginia Tech, Blacksburg, VA, USA, Sep 2016
18. "What is Systems Engineering?," IE Seminar (graduate course), Virginia Tech, Blacksburg, VA, USA, Sep 2016
19. "Becoming a System Integrator," Thales Alenia Space Spain, Madrid, Spain, Jun 2016

20. "Verification and Validation," Systems Engineering (graduate course), Skolkovo Institute of Science and Technology, Moscow, Russia, May 2016
21. "Design and Application of Digital Game-based Learning," Virginia Tech (Showcase), Virginia Tech, Blacksburg, VA, USA, May 2016
22. "International Engineering," Global Engineering Practice: Leadership and Culture (undergraduate course), Virginia Tech, Blacksburg, VA, USA, Mar 2016
23. "From Art to Systems Engineering and Back," Institute for Operations Research and the Management Sciences (INFORMS) Student Chapter Seminar Series, Virginia Tech, Blacksburg, VA, USA, Nov 2015
24. "Architecting Elegant Systems," The Art of Simplicity How to Cope with Complexity (graduate course), Stevens Institute of Technology, Hoboken, NJ, USA, Nov 2015
25. "What is Systems Engineering?," IE Seminar (graduate course), Virginia Tech, Blacksburg, VA, USA, Oct 2015
26. "Transitioning Scientific Foundations of Systems Engineering to Practice: A Case on Understanding and Influencing the Solution Space," Grado Department of Industrial and Systems Engineering, Virginia Tech, Blacksburg, VA, USA, April 2015
27. "Tradespace Exploration and Pareto Fronts: Pick a Point," Fundamentals of Systems Engineering (graduate course), Buskerud University College, Kongsberg, Norway, Sep 2013
28. "Validation risks of using development methodologies in a hierarchical fashion," Kongsberg Systems Engineering Event, Buskerud University College, Kongsberg, Norway, June 2013