Oscar A. Mondragon Campos, Ph.D

Contact Details

Oscar A. Mondragon Campos, Ph.D
Clinical Associate
Professor, Industrial, Manufacturing, and Systems Engineering (IMSE)
oamondragon@utep.edu
(915) 747-8015

Model Based Systems Engineering Bootcamp

UTRGV

SPEAKER

Personal Summary

Dr. Oscar A. Mondragon is Director of the Master of Science in Software Engineering and associate professor of practice in the Computer Science Department at the University of Texas at El Paso. From 2014 - 2019, he was Director of the Online MS in Systems Engineering (SE) defining the strategy and managing the development of the new program. Dr. Mondragon is coauthor with Lockheed Martin Aeronautics of the SE Boot Camp; a course offered to college engr. students. He has published papers and journal articles in formal requirements specification formal requirements verification, property specification patterns, requirements modeling, process improvement, CMMI model, INCOSE Handbook, PSP and TSP frameworks, service system models, and managing smart cities application development. Dr. Mondragon has been working as a consultant, guiding companies in the implementation of quality models such as CMMI, PSP, TSP, and AIM. Dr. Mondragon is a certified Introduction to CMMI instructor, CMMI MDDAP Appraisal Team Member, PSP instructor, TSP coach, and INCOSE ASEP, and IEEE senior member and CSDP. Dr. Mondragon facilitates process improvement projects and develops skills in project management, project monitoring, risk management, supplier management, requirements engineering, configuration management, measurement and analysis, process and product quality assurance, verification, validation, process definition, process performance, and quantitative project management. He mentors self-management teams, develops team building skills, develops defect removal skills for individuals and teams, conducts gap analysis, and prepares Engineering Process Groups.

Oscar A. Mondragon Campos, Ph.D

Contact Details

Oscar A. Mondragon Campos, Ph.D
Clinical Associate
Professor, Industrial, Manufacturing, and Systems Engineering (IMSE)
oamondragon@utep.edu
(915) 747-8015

Model Based Systems Engineering Bootcamp

UTRGV

WORKSHOP

Supporting development of complex system through modeling, simulation and Model Based System Engineering.

There has been an increasing trend in size and complexity of systems making them more difficult to understand, validate, specify their behavior and functionality, create its architecture and design, develop, and verify their defined functionality and behavior. System development based on paper documentation and manual validation & verification is not enough to handle the complexity and tight development schedules. The use of models and simulations throughout the system lifecycle to support systems analysis, verification, and validation has become imperative to build complex systems with quality. Models and simulations provide the means to understand, define, and unambiguously communicate both system requirements and system solution (architecture). Models can be used to provide a visual representation of the problem and/or system solution in artifacts produced in mission analysis, stakeholder requirements, system requirements, architecture, and design. Models have syntax and semantics that facilitate a consistent use of the model, its semi-formal definition, and its interpretation avoiding the ambiguity embedded in natural language. The workshop covers different types of models and simulations addressing different purposes and needs, type, fidelity, and the complexity of their abstractions and analyses involved. The workshop reviews the characteristics of models and simulations; use of models and simulations to understand different system's aspects; and the use of models to verify systems requirements, validate system artifacts with customer/end user, and determine the affordability to meet performance requirements. In addition, the workshop covers how models and simulations are used to support the entire system lifecycle through Model-Based Systems Engineering (MBSE), which is a model-centric approach