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at the address below.

Society of Allied Weight Engineers, Inc.
Ronald L. Fox
Executive Director
5734 E Lucia Walk
Long Beach, CA 90803-4015
USA

Phone: (562) 596-2873
Fax: (562) 596-2874

ron.fox@sawe.org

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Monday, May 20, 2019

8:00 a.m. – 9:30 a.m.

OPENING SESSION

GRANBY SALON D

Time	Presentation
8:00 - 9:00	<i>Opening Remarks and Presentation- Conference Co-Chairs and Dawn Schaible, Director of Engineering, NASA LaRC</i>
9:00 - 9:30	<i>3713 Inspiring the Engineering Future Workforce through NASA's Capabilities - Anne Weiss and Rosemary Smith - NASA... 1</i>

10:00 a.m. – 12:00 p.m.

STATISTICS SESSION 1

GRANBY SALON D

Time	Presentation
10:00 - 10:30	<i>3729 Application of Basic Parametric Methods Douglas Fisher - UTC Aerospace Systems...33</i>
10:30 - 11:00	<i>3719 Lightship Evolution Diagnostics with In-Service Stability Measurements - Colin MacFarlane and Manuela Bucci Tymor Marine, Ltd...50</i>
11:00 - 11:15	<i>Vendor Presentation</i>
11:15 - 11:30	<i>Vendor Presentation</i>
11:30 - 12:00	<i>3716 A Methodology of Determining Parametric Equations from Data with a Worked Example - David Hansch - Huntington Ingalls Industries Newport News Shipbuilding...74</i>

10:00 a.m. – 12:00 p.m.

SURFACE TRANSPORTATION SESSION

FUSION

Time	Presentation
10:00 - 10:30	<i>Presentation - Designing the World's Largest Mining Truck Bryant Ward -Leibherr Mining Equipment Company...99</i>
10:30 - 10:45	<i>Vendor Presentation</i>
10:45 - 11:00	<i>Vendor Presentation</i>
11:00 - 11:30	<i>3727 Trifilar Pendulum: Non-Small Oscillations and Calibration Giorgio Previati and Federico Ballo - Politecnico di Milano 116</i>
11:30 - 12:00	<i>3728 Investigation of the Mass Properties of Cars Giorgio Previati, Gianpiero Mastinu, Massimiliano Gobbi Politecnico di Milano... 132</i>

Technical Tracks

Monday, May 20, 2019

1:30 p.m. – 3:00 p.m.

MASS PROPERTIES CERTIFICATION FORUM

GRANBY SALON D

The SAWE will host an interactive forum concerning the recent SAWE initiative of establishing a certification program for mass properties engineers. A panel of experts will present topics related to the proposed Mass Properties Engineer Certification. These include the rationale for certification; the path to establishing the SAWE as a certification authority; certification standards, training, and testing; and desired outcomes. Following the presentations, the opportunity for the audience to ask the panel questions and voice opinions will guarantee that this is a truly interactive forum for all. **Moderator: Yi-Ling Tam - The Aerospace Corporation**



3:30 p.m. – 5:30 p.m.

STATISTICS SESSION 2

GRANBY SALON D

Time	Presentation
3:30 - 4:00	<i>3710 Application of the Law of Propagation of Uncertainties to a Weight and CG Measurement System - Anjie Emmett Analytic Mechanics Associates...146</i>
4:00 - 4:30	<i>3717 Evaluating a CoG Envelope Using a Probabilistic Approach Robert Hundl - Fluor...195</i>
4:30 - 4:45	<i>Vendor Presentation</i>
4:45 - 5:00	<i>Vendor Presentation</i>
5:00 - 5:30	<i>3724 Methods and Processes for Robust Mass Properties Management in the Automotive Industry with a Main Focus on Mass Uncertainties - Marcus Stegmiller - BMW...210</i>

3:30 p.m. – 5:30 p.m.

STUDENT PAPERS AND MISCELLANEOUS

FUSION

Time	Presentation
3:30 - 4:00	<i>S3726 Toolchain Integration for Space Habitat Design Maxwell Devoe - NASA LaRC Intern...228</i>
4:00 - 4:30	<i>S3730 Path To Be An Engineer Brittany Johnston (Old Dominion University)...239</i>
4:30 - 5:00	<i>S3725 HERMES: Hazard Examination Reconnaissance Messenger for Extended Surveillance - Dr. Donna Gerren for Marcos Mejia - University of Colorado...245</i>
5:00 - 5:30	<i>3695 Mass Properties Considerations on the Appalachian Trail Nicholas Marickovich - Huntington Ingalls Industries Newport News Shipbuilding...256</i>

Wednesday, May 22, 2019

8:00 a.m. – 9:30 a.m.

TECHNICAL FORUM: THE MASS PROPERTIES ENGINEER’S SIGNATURE TASK:
WEIGHT CONTROL

GRANBY SALON D

The touchy subject of Weight Control is front and center as the subject of this year’s technical forum. When management thinks of mass properties engineering, their first thought is that their mass properties engineers keep control of the weight of their project. We will explore what is involved in controlling weight – from defining the requirements, creating a plan and obtaining consensus among subsystems engineers and management, implementing and tracking the plan, contingency operations for off-nominal excursions (corrective actions), and finally piece part, subsystem, and final project verification.

Following a brief presentation that will provide fodder for further discussion, the floor will be opened for a lively discussion of any and all aspects of weight control.
Moderator: Robert Zimmerman, VP Technical Director - Lockheed Martin (Retired)



10:00 a.m. – 12:00 p.m.

MARINE SESSION 1

GRANBY SALON A,B,C

Time	Presentation
10:00 - 10:30	<i>3720 A Practical and Proactive Way of Managing Weight & Center of Gravity Uncertainty Using the Successive Principle Runar Aasen - BAS Engineering...282</i>
10:30 - 10:45	<i>Vendor Presentation</i>
10:45 - 11:00	<i>Vendor Presentation</i>
11:00 - 11:30	<i>3711 A Century of Submarine Mass Properties David Tellet - NAVSEA 05 (Retired)...300</i>
11:30 - 12:00	<i>3715 Negligible Weight Quantification for Surface Ship Weight Surveys - Greg Roach - Gibbs & Cox...341</i>

10:00 a.m. – 12:00 p.m.

AEROSPACE SESSION 1

FUSION

Time	Presentation
10:00 - 10:30	<i>3721 A Weight and Center of Gravity Instrument for Measuring Manned Spacecraft - Daniel Otlowski - Space Electronics 353</i>
10:30 - 10:45	<i>Vendor Presentation</i>
10:45 - 11:00	<i>Vendor Presentation</i>

Technical Tracks

Wednesday, May 22, 2019

AEROSPACE SESSION 1 (CONTINUED)

FUSION

Time	Presentation
11:00 - 11:30	<i>Technical Presentation - Ascent Abort 2 Integrated Flight Test Vehicle: How Mass Properties are Used to Manage Flight Test Objectives - Amanda Cutright - NASA LaRC...376</i>
11:30 - 12:00	<i>Presentation - Welcome to SAWE - Damien Yanez - Gulfstream N/A</i>

1:30 p.m. – 5:00 p.m.

MARINE SESSION 2

GRANBY SALON A,B,C

Time	Presentation
1:30 - 2:00	<i>Technical Presentation - Newport News Apprentice School: 100 years - Bill Fox (Retired)...N/A</i>
2:00 - 2:15	<i>Vendor Presentation</i>
2:15 - 2:30	<i>Vendor Presentation</i>
2:30 - 3:00	<i>3718 Center of Buoyancy and Center of Gravity Measurement of a Submersible Vehicle - James Blair - Space Electronics...395</i>
3:00 - 3:30	<i>Coffee Break</i>
3:30 - 4:00	<i>Technical Presentation - America's Cup: A History Jeanne Willoz-Egnor - The Mariner's Museum...N/A</i>
4:00 - 4:30	<i>Technical Presentation - Reporting of the Relevant Loading Condition of a Project for the Offshore Industry - Alex Maloy...411</i>
4:30 - 5:00	<i>Open</i>

1:30 p.m. – 5:00 p.m.

AEROSPACE SESSION 2

FUSION

Time	Presentation
1:30 - 1:45	<i>Vendor Presentation</i>
1:45 - 2:00	<i>Vendor Presentation</i>
2:00 - 2:30	<i>3714 Weight and Design Data for World War II - Era United States Aircraft - Dudley Cate - NAVAIR (Retired)...421</i>
2:30 - 3:00	<i>Technical Presentation - Functional Small Parts Made From Thermoplastic Composites - Larry DiSano - Ensinger...460</i>
3:00 - 3:30	<i>Coffee Break</i>
3:30 - 5:00	<i>Open</i>

ADDITIONAL TECHNICAL PRESENTATIONS

Presentation
<i>Technical Presentation - ANSI Accreditation for Personnel Certification - SAWE MPE Certification Committee - Bill Baze, John Hargrave & Yi-Ling Tam...471</i>
<i>Technical Presentation - A Study of the Weight Impacts of Converting a Land-based Aircraft to a Carrier-based Aircraft - Paul Kachurak - NAVAIR...488</i>
<i>Technical Presentation - 2019 SAWE Forum: Weight Control Robert Zimmerman - SAWE Vice President...495</i>

VENDOR AND SPONSOR PRESENTATIONS

Presentation
<i>Vendor Presentation - Space Enterprise Solutions for the Nation - The Aerospace Corporation...506</i>
<i>Vendor Presentation - GEC: General Electrodynamics Corporation - General Electrodynamics Corporation...519</i>
<i>Vendor Presentation - WHO WE ARE - Huntington Ingalls Industries...522</i>
<i>Vendor Presentation - ShipSurveyorXT - PRAESES Business Technologies...529</i>
<i>Vendor Presentation - ShipWeight & ExpressMarine Weight Engineering Software - ShipWeight...536</i>
<i>Vendor Presentation - World Leader in Mass Properties Measurement - Space Electronics...547</i>