



CE Chapter Meeting Oct-24

Presentation & MoM

Society of Allied Weight Engineers



AGENDA



- Welcome/Round Table/Introduction of participants. [R.Gonzalez/All]
- Chapter Status report:
 - SAWE International VPs from CEC [J.Bes/D.Petersen/Ali Elham]
 - Chapter Working group status report [WG Coordinators]
- SAWE CEC Active participation: CEC Future leadership development [R.Gonzalez]
- Technical Presentation : PILGRIMAGE IN SHIP WEIGHING UNCERTAINTY [Manuela Bucci]
- Technical Working Groups [D.Petersen]



- Dr. Markus Toeppel
- Judi Cheeseman
- Heinz-Michael Huebner
- Sarah Peake
- Manuela Bucci
- Ruben Gonzalez-Gonzalez
- Werner Sellner
- Uwe Kueper
- Dirk Petersen
- Miguel Mascaray
- Jose-Maria Guiterrez-Zuazua
- Jorge Bes



PILGRIMAGE IN SHIP WEIGHING UNCERTAINTY

by

Manuela Bucci





Paper 3813 “PILGRIMAGE IN SHIP WEIGHING UNCERTAINTY - How Air Can Bias the Deadweight of a Ship”

Manuela Bucci and Colin McFarlane received the best paper award at this year’s SAWE Virtual Conference.

Abstract:

Apart from cargo, a vessel’s deadweight is substantially made by the weight of liquids onboard. Modern ships and offshore rigs might have sounding pipes for taking manual measurements, but at least one system of level gauges with remote feedback to a control room is the system which the crew believes most – perhaps swayed by the fact that it is easiest for them.

In using ballast water to generate inclining moment during an inclining experiment, it is believed that uncertainties in the inclining moment are negligible. Also, by fully filling or completely emptying the tanks, it is believed that the uncertainty in the weight of the liquids onboard is minimised. But what if the pressed-up tanks show an inexplicable drop in level over the duration of the experiment? Can several tens of tonnes of water really disappear with all valves closed and no overflow?

Or what if tanks that are filled and not changed for several days are measured to find a level that changes with the weather and the external atmospheric pressure?

Or, finally, what if during an inclining test the level measured in a tank exceeds the known height of the tank?

Maybe we have been jinxed with a series of unlucky lightship surveys and inclining experiments or perhaps it is because we always get asked to look into the most ‘interesting’ problems, but our recent research of the correct tank contents became a pilgrimage where we visited some less obvious and sometimes unlikely sources of uncertainties.

Whatever the reason, this paper provides an insight into adventurous post-processing of inclining experiment measurements to achieve acceptable uncertainty in the results.

The [paper](#) is available in the SAWE shop. You may use part of your yearly store credit for a free download.



- **SAWE International VPs from CEC**
 - As we all know, our society is governed by the so-called BoD (Board of Directors).
 - The BoD meets every month to deal with the day to day running of the organization and to discuss proposals and actions coming from the different Vice Presidents as well as the progress of the open projects to date.
 - Once a year, the BoD meets virtually some days before the International Conference.
 - The BoD is composed of the President, the Executive Director and the Vice-Presidents of the different areas of our society.
 - The Directors of each chapter also participate in the BoD annual session, and they can also participate in the monthly meetings



- **SAWE International VPs from CEC (MEMBERS of the BoD)**

VP - STANDARDS & PRACTICES



Jorge Bes

Airbus

standards@sawe.org

VP - ACADEMIC AFFAIRS



Ali Elham

University of Southampton, UK

academic.committee@sawe.org

VP - CERTIFICATION



Dirk Petersen

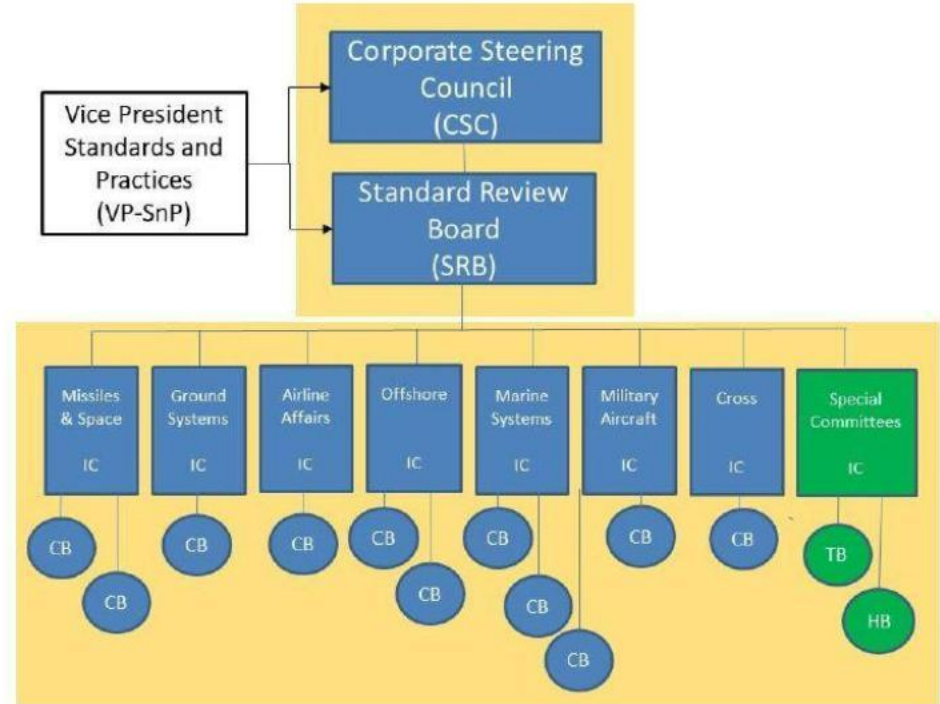
Society of Allied Weight Engineers, Inc.

cmpe@sawe.org



SnP Presentation

- SnP committee takes care of:
 - Publication of Standards & Handbook
 - Publication of Recommended Practices
 - Support on other publications: trainings material...



Any SAWE member can join an Industrial Committee



Dirk Petersen – VP Certification

PROGRAM DESCRIPTION

- SAWE Certification is the standard of excellence for our profession ensuring that we maintain a workforce of qualified Mass Properties Engineers in a verified and recognized manner. This certification provides proven evidence to your employer, customers, and peers that you have successfully achieved the skills and competencies required for your level of professional experience. Use the links below to find out more about this coveted award and how you can be included in our prestigious group of Certified Mass Properties Engineers (CMPEs).

Chapter Status Report

Dirk Petersen – VP Certification



ROLES AND RESPONSIBILITIES (AS PER SAWE OPERATIONAL MANUAL REV. X)

- Lead deputies, teams and contractors to certify the knowledge and experience of persons at all skill levels of Mass Properties Engineering
- Make exams available.
- Lead the Certification Authority Board of Authority (CABA).
- Present a summary report of statistics to each CABA.
- Submit an annual Certification Report that covers scheduling, exam development, operation and budget for approval by the CABA and later for information to the Board of Directors as part of the Officer Report of the VP-Certification at the annual meeting.
- Annually prepare a 5-year plan for scheduling, exam development and budget for approval by the CABA.
- Maintain the Certification Authority in line with the annual budget and Certification Authority procedures that have been reviewed by the CABA and approved by the BoD.
- Promote Certification.
- Provide planned activities for the upcoming International Conference to the Senior Vice President.



Chapter Status Report

Dirk Petersen – VP Certification

LEARN

- About Mass Properties and the differences between the industries.
 - Mainly through leading the team checking of the question and answers received.
- About proper use of language.
 - Assessing why an examinee has answered a question incorrectly.
- New things I never believed I would do.
 - e.g. building a webpage.

TEACH

- By the questions and answers in an exam.
- By collecting the material which a future examinee should be familiar with.
- By the workshops creating questions and answers (e.g. at a conference).
- By being a mentor in the SAWE Mentoring Program.



Chapter Status Report

Dirk Petersen – VP Certification

INTERACT

- With all of the Vice Presidents of the SAWE, the Industry Committees, the Chapter Presidents.
 - Especially VP Training and Head of Mentoring, as the incorrect answered questions indicate missing knowledge in the membership of the Society.
- With the members supplying questions and answers.
 - Ensure that the meaning behind the questions and answers is understood.



▪ Chapter Working group status report : WG 1 – Corporations

Its purpose is to make our Society known to companies and built a network of collaborating corporations. In this way, a register of European companies has been created to share our services.

Our strategy consist of:

- Visit a selected Corporation to make a direct SAWE Introduction or a Technical Presentations of their interest, as we did in the past (ALESTIS, Fincantieri)
- Increase the register adding new Corporations to offer our services. Recently we contacted to *CH-Aero*, a Company specialized in [Aircraft weight and balance services](https://ch-aero.com). <https://ch-aero.com>
- Contact registered Corporations when an event is about to take place, whether it is an International Conference, Regional Conference or other event of interest.



- **Chapter Working group status report : WG 3 – Universities**

Latest Progress :

- Presentation to GENOVA Naval Architecture Students during a Webinar in May the 14th.
- Date for Technical & SAWE presentation to the University of Madrid (24-October)
- In contact with University Carlos III (Getafe) to make the same presentation

Chapter Status Report

WG 4 - Knowledge Sharing - Status



- Mentoring:
 - New: 0 mentees.
 - Total: 7 mentees, 12 mentors.
- Training
 - No new courses.
- Certification:
 - New: 1 candidate
 - Total: 7 AMPE, 2 PMPE, 7 EMPE
- Publications:
 - New:
 - 1 Journal, 4 Bulletins.



Chapter Status Report

WG 4 - Knowledge Sharing - Near Past

- May 24 In-Person Training Conference – Dallas/USA.
- 20.-22.05.24 SAWE Virtual Conference
- June 24 Virtual Trainings.
- 27.07.24 CEC Newsletter Summer 2024.
- 23.08.24 SAWE Virtual Forum #13 „Pathways in Mass Properties Digitization“



WG 4 - Knowledge Sharing - Near Future

- Nov./Dec. 24 SAWE Virtual Trainings (see next page).
- Jan. 25 CEC Newsletter Winter 2025.
- 20.02.25 SAWE Virtual Forum – Working Title „How to ask the right question“, facilitated by Dirk Petersen.
- Feb. 25 SAWE Academic Virtual Forum.
- Mar. 25 CEC-Membership Meeting*.
- 18.-22.05.25 SAWE International Conference Albuquerque, NM, USA. – **Papers and Presentations required.**
- More info @ sawe.org/chapters/centraleurope/ and www.sawe.org.

*non-members welcome, no cost



WG 4 - Knowledge Sharing - Near Future

SAWE Virtual Trainings

- 08.-09.11.24 Vendor Weight Control
- 15.-16.11.24 Developing Basic Parametric Methods
- 21.-22.11.24 Advanced Mass Properties Measurement
- 13.-14.12.24 Automated Weight & Balance System (AWBS)
- 13.-14.12.24 Aircraft Weight Estimating and RP8

Register at <https://www.sawe.org/events/training-events/>



Technical Paper Schedule

Important Summary of Dates for Conference Technical Papers

- Note intentional stagger in date differences for Professional & Student papers (dates on timeline and in formatting)
- Cadence of Scoring is similar to what we did this past year (on the same day the TC submits scores for “Professional Best Paper,” the student papers are due, and that leaves the next week to review and score student papers)

Professional Paper Deadlines	Product Due	Student Academic Paper Deadlines
January 20, 2025	Abstract	March 17, 2025
April 1, 2025	Paper	April 8, 2025
April 8, 2025	Technical Committee Scores due to VP- TD	April 15, 2025
April 12, 2025	TC VP-TD results for awards due to Executive Director	April 19, 2025
May 1, 2025	Final Papers Due (note: this is a miss on award consideration deadline, this is in order to be included in conference schedule)	May 1, 2025
May 1, 2025	Presentation Files are due to SAWE to be presented at conference	May 1, 2025

Reminder: Just as this past year, even if papers come in after the award deadline, please recall the TC will still provide technical review and feedback to the authors to ensure technical quality



WG 4 - Knowledge Sharing - Future

- May 2026 SAWE International Conference in Los Angeles area, California, US
- May 2027 The CEC hopes to bid for SAWE International Conference in Hamburg, Madrid or Toulouse



SAWE CEC Active participation

CEC Future leadership development

AIM

- Within our strategy for the European Chapter, one of the initiatives we are implementing is to facilitate the transition between the current management of the Chapter (Executive Committee) and the future generation of leaders.
- As you know, the Executive Committee is composed of the President, Vice-President, Secretary and Chapter Director.
- Recently, we have invited some members to participate in the committee meetings, in order for them to get to know the dynamics and gain experience in case they could take some responsibility in the future.
- Participation in Industry Committees (at least 1 CEC member should participate in each industry).

If you would like to participate and attend one of our meetings, please contact us.



SAWE CEC Active participation

CEC Future leadership development

INDUSTRY COMMITTEE REPRESENTATIVES

The representatives lead the Industry Committees. They are looking for new members to increase the knowledge of Mass Properties in the relevant industry.

[Civil Aircraft Representative](#)

Jason Booth

[Ground Vehicles Representative](#)

Andy Schuster

[Marine Representative](#)

Greg Roach

[Military Aircraft Representative](#)

Robin Miller

[Missiles & Space Representative](#)

[Offshore Representative](#)

Robert Hundl



- Chapter Strategy:
 - Identify technical topics → Survey to be launched.
 - Technical working groups → Technical Forums.
 - Papers preparation.
 - Regional Conference presentations.
 - International Conference presentations.
- Possible Topics
 - Split of weight with hydrogen/electrical powered aircraft or vehicles.
 - New materials.
 - Weight Margins vs. Weight Uncertainties. Different methods to estimate what cannot be calculated.