

CEC Newsletter Summer 2024





SAWE Central European Chapter

Table of Contents

- Membership Meeting April 2024
- New SAWE Webpage
- Working Groups
 - Corporations
 - Universities
 - Knowledge Sharing
- Who is Who?
 - Who is Miguel?
- SAWE International Conference
- Paper 3813
“Pilgrimage in Ship Weighing
Uncertainty”
- LTH 150
- What’s next?
- Seriously!

Editorial

Text by Manuela Bucci, Miguel Mascaray,
Werner Sellner and Dirk Petersen

Images by Dirk Petersen

This newsletter is distributed to the current
membership of the SAWE Central European
Chapter.

Feel free to distribute to interested parties.

For comments and contribution contact:

cec.chapter@sawe.org.



SAWE Central European Chapter

Membership Meeting April 2024

The SAWE Central European Chapter held its first Membership Meeting of the year on 18.04.2024.

Fewer participants than expected joined the meeting.

The Working Groups presented the status and outlook of their activities, additional topics could be launched if sufficient interest exists.

Uwe Kueper and Jose-Maria Gutierrez-Zuazua presented their positive experience in working together in transnational teams on the example of the development of the Eurofighter.

The presentation is available on our [webpage](#).

The next CEC Membership Meeting is scheduled on 12.09.2024 at 18:00 CEST.

New SAWE Webpage

The SAWE has reworked completely its webpage. [Take a look and enjoy](#).

Our chapter's webpage can be found: ww.sawe.org -> ABOUT -> CHAPTERS -> CENTRAL EUROPEAN

The [link](#) to our webpage remains unchanged.

Working Groups

WG1 Corporations

Its purpose is to make our Society known to companies and built a network of collaborating corporations.

A fruitful exchange with the shipbuilder Fincantieri has been started and extended to the University of Naval Architecture in Genova.

WG3 Universities

Small progress since last newsletter:

- Sessions with Genova University held with attendance of students. We show that SAWE is all about.
- Presentation in Madrid University was postponed till Sept/October due to the student's exams sessions.

WG4 Knowledge Sharing

The aim of this group is to facilitate the knowledge transfer between the members of the SAWE CEC.

During this year's Virtual Conference, the phrase "I need this to ask the right questions" was voiced several times. This started the idea to launch a SAWE wide forum on this topic in February next year, as typically you learn to ask the right questions on the go. The forum will be facilitated by Dirk Petersen, co-facilitators are more than welcome. If you are interested contact dirk.petersen@sawe.org.

Several Recommended Practices have been created or updated:

- RP A-04 „Survey Methods for Establishment of Passenger, Bag and Carry-On Weights“
- RP O-2 „Coordinate Reference System for Offshore Systems“
- RP A-14 “Weight definitions for aircraft” close to officialization.
- RP A-17 “Weight and Balance Reporting for Aircraft Modifications” working group is being established, if interested in participation the CEC Excomm will link you to the WG leader.

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



SAWE Central European Chapter

Support Needed!

Influence the future of our profession and be part of our working groups. Working groups and their interim coordinators are:

- WG1: Corporations: Ruben Gonzalez-Gonzalez & Jose-Maria Gutierrez-Zuazua
- WG2: Technical Involvement: NN
- WG3: Universities: Miguel Mascaray
- WG4: Knowledge Transfer: Dirk Petersen



We Need Your Support ...

Please [contact us](#).

Subpages for each working group are or will be available.

Who is Who?

In this space members of the SAWE Central European Chapter will have the opportunity to present themselves.

Volunteers are welcome to write a short article about their life inside and outside of Mass Properties.

Who is Miguel?

Since I was a child, watching in the sky the approach of airplanes to the Barcelona airport from my home in the countryside, I was attracted to aviation. Later, as I grew up in my school education, this discipline attracted more and more my interest. In the early 70's I used to buy magazines specialized in aviation. In 1975 I took with the great help and understanding of my

parents the decision to study Aeronautical

Engineering. The “issue” was that I had to travel 650 km from home. Madrid was the only Spanish university that taught aeronautical engineering in those years. I graduated in 1980 and in 1983 I joined CASA.

At CASA I started working as a mass properties engineer. More than 37 years ago.

37 years is a long time if you stay in the same discipline, you can stagnate and turn your work into a heavy routine. This was not the case for me. Throughout those years I had the good fortune to participate in many different projects



Miguel Mascaray

and professional activities: EDSA project for the USAF, CASA-212, CASA-235, all AIRBUS programs, MD-11, Saab-2000, Dornier-728...

While gaining experience in the different projects, I was able to improve processes and build new tools for mass estimation and control, as well as to conduct training courses for the young incorporations in the company and the University.

My stays in Los Angeles (McDonnell), Ankara (TAI), Bangalore (Airbus India) enriched me professionally and personally. My participation in new technology projects and my membership in SAWE increased my knowledge and introduced me to the professional world of the masses worldwide. Member of SAWE since



SAWE Central European Chapter

1991, I was President of the European chapter, international technical director and co-organizer of international conferences in Madrid, Hamburg and Munich.

In 2010 I was appointed senior expert in mass (maximum technical authority in the area) and in 2013 Engineering Coordinator at Airbus Spain, coordinating and assisting the various engineering teams present in Spain (structures, systems, certification, technologies, flight physics, testing, design processes...).

Of course my professional life was not boring at all and although my anchor was always anchored to the masses, I have been lucky enough to swim in many waters, learn from them and finally, when I retire in 2020, have the feeling that my desire to be part of the aeronautical world ... was fulfilled

Now, I'm retired and I collaborate as a member of the CEC Executive committee coordinating the university branch of our strategy to promote our discipline at the root of everything: the education.

SAWE 83rd International Conference

This year's SAWE International Conference was a virtual event. For three days, from 20. to 22. May, the 132 attendees were able to watch and participate in interesting topics.

The technical schedule included:

- 18 Papers and Presentations
- 1 Certification Workshop
- 1 Forum
- 8 Vendor presentations

Manuela Bucci and Colin McFarlane received the best paper award for introducing us to uncertainties in the measurement of ships. Parallels with measurement of other types of

vehicles are present.

No award for the best student paper was given, as suitable papers were received too late to judge.

A presentation on "SAWE Career Development" combined the three learning initiatives – Mentoring, Training and Certification.

A workshop intended to raise questions and answers for the Certification exams resulted in approximately twenty new inputs and resulted in ideas for lots more.

The forum on "Mass Properties Engineering is a Collaborative Environment", moderated by Jeff Cerro, resulted in a lengthy debate between all attendees.

Papers, presentations and recordings can be purchased in the SAWE store.

During the Standards and Practices Day attendees had the chance to participate in the discussion of each Industry Committee.

Manuela Bucci and Andrew Walker were nominated Fellows of the Society, Runar Aasen and Past President Damian Yanez received the title of Honorary Fellow.

The award for the Best Journal Article went to Alyx Stubbers for the transcript of the Virtual Forum "Wanted – Parametric Data".

Three scholarship awards were presented, Jerry Lewis working for Lockheed and Chris Wandell working for Northrop Grumman received the Ed Payne Award for Outstanding Young Engineers.

The virtual conference was bracketed by eight well attended in-person and virtual training classes and the Board of Directors (BoD) Meeting.

One topic of the BoD is how to perform International Conferences in the future. In-person, virtual and hybrid conferences have their



SAWE Central European Chapter

own benefits and challenges. Contributions and opinions are welcome, contact the [SAWE CEC Excomm](#).

Membership in future will be effective for 365 days from membership registration date and independent of the SAWE financial year.

Ali Elham from the University of Southampton was nominated as the new SAWE Vice President - Academics.

CEC at the Conference

Nine members of the Central European Chapter participated in the conference.

Contributions from members of the CEC:

- Runar Aasen, B&A Software
 - Paper 3808 Implementing Effective Weight Management Strategies in Shipyards: A Practical Approach
 - Vendor Presentation - B&A Software
- Jorge Bes, Airbus, SAWE VP Standards and Practices – Standard and Practices Day Chair
- Dieter Scholz, Hamburg University of Applied Science
 - Paper 3802 Aircraft Mass Growth & Reduction Factors
 - Paper 3801 Wing Design with regard to Mass and Drag
 - Paper 3803 Mass Estimation of Folding Wing
 - Paper 3804 Methods for the Operating Mass Empty Estimation in the Aircraft Design
- Dirk Petersen, SAWE VP Certification
 - Track Chair
 - Certification Workshop
 - The SAWE Career Initiative Update - with Robert Zimmerman and Darren Gamble

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.



Manuela Bucci

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?

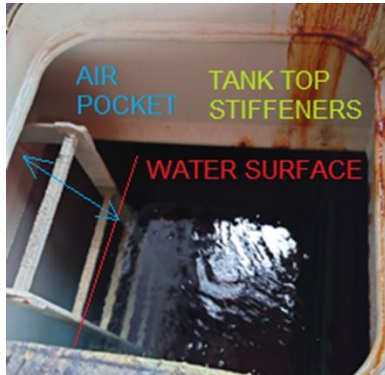
Or what if tanks that are filled and not changed for several days are measured to find a level that changes with the weather and the external



SAWE Central European Chapter

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.

LTH150

The LTH (Luftfahrttechnisches Handbuch - Aeronautical Engineering Handbook), Working Group “Mass Analysis”, performed its 150th meeting on 25th and 26th of June at the rheinisch-Westfälische Technische Hochschule (RWTH) in Aachen. The RWTH, founded in 1865, is the largest technical university in Germany. The agenda included an introduction to and a guided tour through the RWTH, several informative papers and presentations as well as reports from the various working groups and the SAWE. Chaired by Werner Sellner participation consisted of manufacturers, engineering

companies, universities and governmental entities.

The LTH serves to standardize and rationalize engineering work in all phases of material development and in-service use of aerial vehicles and flight equipment. The LTH members are companies, institutions, universities and authorities. If your entity is interested in joining the government funded LTH-WG Mass Analysis contact the chairman Werner Sellner.

What’s next?

- CEC Membership Meeting – 12.09.2024 18:00-19:30 CEST* – non-members welcome, no fee
- SAWE Forum: Autonomous Vehicles: coordinated by Amanda Cutright - 15.08.2024 TBC
- SAWE Forum: Artificial Intelligence and Machine Learning (AI/ML) with mass properties applications: coordinated by Manuela Bucci - 17.10.2024 or 13.12.2024 TBC
- CEC Newsletter Winter 2025 – January 2025
- SAWE Forum: “How to ask the right questions?”: coordinated by Dirk Petersen, - 20.02.2025
- CEC Membership Meeting – March 2025*
- SAWE 84th International Conference – 18. – 23.05.2024, Albuquerque, New Mexico, USA

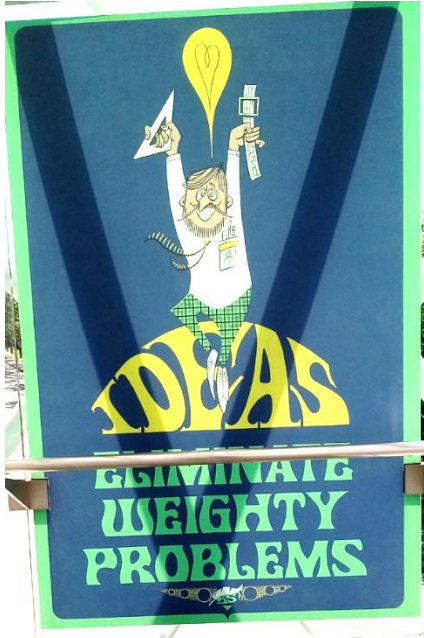
Non-members are welcome to all activities.

* no fee

Monitor our [website](#) for updated information on future events.



Seriously!



One of several posters concerning Mass Properties displayed on the walkway between the old and new part of the Museum of Flight, Boeing Field, Seattle, USA.

We are looking for more comics, jokes and stories for the next versions of the newsletter. Do not hesitate to send them to “[contact us](#)”.