

## **SAWE CEC Newsletter Summer 2025**





## **Table of Contents**

- Membership Meeting March 2025
- Working Groups
  - Corporations
  - Universities
  - Knowledge Sharing
- SAWE Forum #14 “Ask the Right Question”
- Who is Who?
  - Who is Jose-Maria?
- SAWE 84<sup>th</sup> International Conference
- SAWE 86<sup>th</sup> International Conference 2027
- Presentation “Empowering Mass Properties Engineers with Artificial Intelligence: Transforming Estimation, Analysis and Optimization”
- LTH 152
- What’s next?
- Seriously!

## Editorial

Text by Miguel Mascaray, Jose-Maria Gutierrez-Zuazua and Dirk Petersen

Images by Jose-Maria Gutierrez-Zuazua and 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](mailto:cec.chapter@sawe.org).



# ***SAWE Central European Chapter***

---

## **Membership Meeting March 2025**

Miguel Mascaray

On March the 20th we had our biannual online meeting and for the first time the audience exceeded 25 people.

In my comments of the October 2024 session, I mentioned the importance and the objective of increasing the audience. It seems that we are on the right track. I also mentioned that we will spare no effort to do so and therefore for the March session we invited two excellent experts of our discipline: Daniel Raymer and Yuri Mirshavka.

Daniel Raymer, what can we say about him... a great engineer who has worked on many aeronautical projects and a great disseminator through his books and courses in aeronautics in general and of mass properties in particular.

Daniel Raymer delivered an outstanding presentation on our discipline. I must say that, after more than 30 years of experience in the field, I fully recognize that he accurately identified the reasons why it is both critically important and extremely challenging to manage the weight during the development of a new project.

In fact, Daniel showed us some examples in which poor weight control led to either the cancellation of the project or additional cost overruns.

On behalf of the SAWE CEC management, thank you, Daniel, for your contribution to our session and, above all, for the dedication you have shown throughout your professional career—not only in facing your own professional challenges but also in ensuring that others learn from them by sharing your extensive knowledge with future generations.

In the other hand, Yuri Mirshavka, an

experienced mechanical engineer, lightweight engineer and consultant in automotive, rail and aerospace industries, now being a consultant in TGM Lightweight Solutions GmbH.

Yuri gave a very interesting presentation on a combined approach to the application of topological optimization for design and weight reduction but in such a way that savings are guaranteed and the optimized structures can be realized by classical manufacturing methods.

Many thanks also to Yuri for this contribution, certainly adding value to our biannual session.

As I said at the beginning, we are already working to enrich our October session, inviting people knowledgeable in our discipline

We are waiting for you all.

The next CEC Membership Meeting is scheduled for 23.10.2025 at 18:00 CEST.

**Microsoft Teams [Need help?](#)**

**[Join the meeting now](#)**

Meeting ID: 280 343 962 926 9

Passcode: DA2sR7vH

## **Working Groups**

### **WG1 Corporations**

Jose-Maria Gutierrez-Zuazua

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

With the organization of the International Conference 2027 in Hamburg, it is time to contact Companies to offer their collaboration as Sponsor and/or Exhibitor.

Our idea is to involve not only the Companies that traditionally collaborate, but to expand the participation to new companies in the sector, mainly European.



# ***SAWE Central European Chapter***

---

We will establish a plan to make this participation attractive. Set rates and benefits for the different levels of sponsorship, as well as the basis for obtaining a space or booth for Exhibitors. Slot to intervene in the technical sessions presenting their products, etc.

We will define a letter with SAWE format for a formal invitation to companies and corporations including all the information of the participation offer.

SAWE-Central European Chapter Organization Committee- has the task to carry out the these and other actions to achieve a success participation for Sponsor and Exhibitor.

## WG3 Universities

Miguel Mascaray

The aim of this group is to establish a strong and firm collaboration with the European Universities to promote our discipline. For that we establish regular meetings with our Universities Network, identify common projects and lectures with the Universities as well as foster the publication of Student Papers.

We are in the summer break, a time of low activity for the universities, so we are already working to start strongly in our contacts with them in September, especially now with the 2027 Conference in Hamburg.

We had contact with HAW, Hamburg University of Applied Sciences, to potentially deliver lectures there.

## WG4 Knowledge Sharing

Dirk Petersen

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

The SAWE offers a wide range of knowledge sharing opportunities. Grap them if you realize

that you need support in an area of our discipline.

- Publications (paper, standards, recommended practices, journals).
- Training (in-person, virtual, online).
- Mentoring.
- Certification.
- Virtual Forums.
- Conferences.
- Chapter Meetings.

Visit <https://www.sawe.org/resources/>.

## SAWE Forum #14 “Ask the Right Question”

Dirk Petersen

If you listened to the SAWE Virtual Conference in 2024 several presenters mentioned “This is what I need to ask the right question”. But I ask myself, what is the right question? Where do I learn it? A good topic for a SAWE virtual forum, came to my mind. The extensive exchange between the participants confirmed it. Prompted by short presentations from the co-facilitators Dan Raymer, Anjie Emmett, Fred Brown and Jean-Louis Bayard the audience developed suggestions, which I hope we will be able to turn into a paper.

Unfortunately, a glitch in the set-up of the webinar limited attendance, but we learned from that lesson.

The recording of the forum is available in the [SAWE-shop](#).

Monitor the [SAWE-webpage](#) for information on following forums, which will provide interesting discussions with your peers.

## **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





# SAWE Central European Chapter

- 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 Jose-Maria?

Jose-Maria Gutierrez-Zuazua

My first contact with the world of aviation dates back to my early childhood and since I can remember airplanes have been present in my life since my father was a flight mechanic in the Air Force and I remember some visits to the Hangar where he worked and see the planes gutted or flying in the Air Bases. As a teenager I became fond of assembling models of historic aircraft that my father had flown, Junker-52, Henkel-111, DC3, T-6, among others. I didn't yet know that I would be lucky enough to work in the company that built or maintained some of them. But that was still a few years away.

When the time came to do the mandatory military service, I enlisted as a volunteer soldier

because I could choose my destination in the Air Force Headquarters. At the same time I enrolled at the Polytechnic University of Madrid to study Aeronautical Engineering. Given the proximity between the University and my military assignment, I was able to combine both activities. I liked both the military life and the profession I was studying. So, when I finished my obligatory military service, I decided to continue in the Air Force until I finished my Engineering studies with the prospect of opting for the Air Force Corps of Engineers.

But in life there are always alternatives and decisions have to be made. In 1985 I knew, through my fellow students, that there were possibilities to join Construcciones Aeronáuticas S.A. (CASA), and I decided to take the entrance exams. I was accepted and made the decision to leave my military life and start this option. I found it exciting and thrilling to work in a company like CASA, which represented the vanguard of the aeronautical industry in Spain.



Jose-Maria Gutierrez-Zuazua



# *SAWE Central European Chapter*

---

In January 1986 I joined the Mass Properties Department in Getafe (Madrid). My first job was on the C-101 aircraft in the version for the Jordanian Air Force. At the same time, I collaborated in several modifications and tests for other potential versions of the C-101. This helped me to gain knowledge and experience in the field of Mass Properties.

In July 1986 I started working on a new program: the Eurofighter. I could not have imagined that 36 years later I would retire with that same aircraft already in service.

In October 1986 I moved to Turin (Italy) within the Rear Fuselage Working Group (RFWG) together with colleagues from other disciplines for the development of the rear fuselage structure and coordination with the rest of the aircraft. This stage was especially fruitful for me because from the masses of the aircraft I had the opportunity to work as a team, participate in design decisions and manufacturing implications.

In 1990 I became part of the Weights Working Group (WWG) from where all the actions of the Program related to Mass Properties were organized and coordinated, periodical meetings at Eurofighter GmbH Munich (Germany) headquarters with the rest of the Partners. These meetings gave me, apart from many headaches..., the opportunity to learn from my colleagues through the evolution of a program passing through all phases, Development, Production, Manufacturing and Customer Service. In short, to grow as a professional.

The phase of production, delivery and in service support has also been a very enriching stage, less technical perhaps, but equally exciting, which has helped me, over time, to understand the importance of the work from the beginning.

The Mass Properties of a program is the ideal discipline for the exchange and collaboration with other areas that interfere in the program

itself (Structures, Systems, Aerodynamics, Loads, Fuel, Armament, tests and a long etc...).

Apart from EF2000 I also collaborated occasionally in programs such as F-18 mid-life upgrades and several UAVs prototypes, according to the needs of the Company.

I really don't regret the decision I made when I joined CASA in 1986, I think I was very lucky to study what I wanted and work in what I had studied in a company (AIRBUS), which, despite its changes in history, has allowed me to develop a very specific and very generalized professional field at the same time.

In parallel to my aforementioned professional activity, I am a member of SAWE since 2000 when I attended in Bremen (Germany) a Regional Conference. Two years later I had the pleasure to organize, together with my colleagues of SAWE, the Regional Conference in Madrid' 2002. The success of that Conference encouraged us in 2007 to organize an International Conference also in Madrid and in 2012. I collaborated in the one organized in Bad Goetting in Bavaria (Germany). In 2015 another Regional Conference took place in Hamburg (Germany) with great success of participation and content. In 2020 preparations were started for the International Conference in Hamburg' 2020, but it had to be cancelled due to the Coronavirus pandemic.

Today we have the challenge to organize it for the year 2027.

Nowadays I am still collaborating in the European Chapter of the SAWE within the Organizing Committee.

Being a member of the SAWE (Central European Chapter) has supported me in my professional life to meet people, expand my knowledge and apply studies that, in some cases, have helped me in my daily work.



# ***SAWE Central European Chapter***

---

I encourage all professionals who work in the field of Mass Properties or are interested to join SAWE. I think it is worthwhile.

Today I am retired from my professional activity in AIRBUS since 2022. I spend long periods in the beautiful region of Asturias in the north of Spain. I have taken up again my old hobby of assembling model airplanes and reading about historical facts that I am passionate about.

When time and circumstances allow me, I like to hike and follow the ‘Camino de Santiago’ although this is a challenge already achieved but I like to repeat some stage. I recommend it!!!

## **Presentation “Empowering Mass Properties Engineers with Artificial Intelligence: Transforming Estimation, Analysis and Optimization”**

Bill Boze/Dirk Petersen

William (Bill) Boze, the SAWE Executive Director, delivered this award-winning presentation at this year’s SAWE 84<sup>th</sup> International Conference. We hope he will be able to repeat it at our next SAWE CEC-Membership Meeting.



### **Abstract:**

The integration of Artificial Intelligence (AI) into engineering disciplines is revolutionizing traditional workflows, enabling unprecedented efficiencies and innovations. For mass properties engineers, AI offers transformative capabilities in estimation, analysis, data integration, and design optimization, addressing challenges inherent in vehicle design and development. This paper explores the practical applications of AI in mass properties engineering, highlighting some key areas of opportunity. Additionally, the paper in the appendix provides a comprehensive, structured reference collection tailored for engineers seeking to harness AI’s potential, bridging the gap between theory and practice. By equipping engineers with AI knowledge and tools, this work aims to redefine the boundaries of what is possible in mass properties engineering and inspire a new wave of innovation in mass properties prediction and control.

Do not miss this presentation, it will provide you with ideas for your issues.

## **SAWE 84<sup>th</sup> International Conference (17<sup>th</sup> to 23<sup>rd</sup> May 2025)**

Dirk Petersen

The Board of Directors Meeting (BoD) preceded the conference on Saturday, 17<sup>th</sup> May. For the first time with an in-person conference the BoD was conducted virtually, by that saving travel expenses and allowing all to participate. The most important decision was to accept the bid of our CEC for the 86<sup>th</sup> International Conference in 2027. The bid was presented by Kim Mittler, who prepared the highly appreciated presentation. You will find more information in the next article.



# SAWE Central European Chapter

In-person training ran from Sunday to Thursday. 52 students attended three training:

- Developing Aircraft of the Future
- A/C Weight&Balance
- AWBS

The company Eclipse Aviation provided an aircraft for the weighing done during the A/C W&B class, and in general such a good support that they may be chosen for all future in-person training outside a conference.

Without the income created by training the SAWE would not be able to hold an in-person conference, as a large percentage of the 65 conference attendees did not significantly to the income, either because they presented papers or/and are retired. The changed travel policy of companies is the main reason for this.

Monday was reserved for the Mass Track/Ship Weight User Meeting and the Welcome Reception.



*Amanda Cutright, VP Technical*

Both technical days, Tuesday and Thursday, provided the chance to listen to and interact with the presenters of interesting papers. On Tuesday a double track could be done, on Thursday it was a single track. A lot of papers and presentations were presented by a professor and his students of the New Mexico University for Mining and

Technology. Main focus of their studies are drones, flying, swimming, driving, rolling and/or walking. This small University is located in the tiny town of Socorro, which is 150km south of Albuquerque. As a consequence, only students will attend, which are really interested in the courses offered. See the [conference program](#) for all papers and presentations.

Wednesday, the Standard and Practice Day, consisted of group work, first for the certification competitive exam and workshop, followed by the breakouts of the industry committees. Sadly, the Ground Vehicle committee was again dormant.



*Jorge Bes, VP Standard and Practices*

On Friday the successful conference was concluded by a visit to the campus of above-mentioned University of Socorro. Before the visit to the rooms of the professor for technology we had an introduction by the dean, a lady from the Netherlands, and a visit to the outside laboratories of the other main topic of the university. That is everything which makes a big bang, prevention, first reaction and investigation of explosive events is a big topic. For that the university owns 40 square miles of dessert nearby and a ghost town far away. You see adult humans turning into kids again.





## *SAWE Central European Chapter*

The CEC was represented by Jorge Bes, Runar Aasen, Marvin Siewert, Pekka Tiirikainen and myself. Jorge chaired the Standard and Practice Day and gave a presentation on “Unconscious Bias in Weight Management”. He is stepping down as VP Standard and Practices due to conflict with his family and work. Runar had a table as sponsor and chaired the Mass Track/Ship Weight User Meeting. Marvin gave a presentation on “Numerical Approach Based on Cuboid Splitting to Calculate the CG Shift of a Liquid Filled Container Resulting from Rotations”. I chaired the Certification Competitive Exam (a first-time event) and following workshop and presented my part of Career Development presentation. As a surprise I was asked by Amanda Cutright, the VP Technical and responsible for the technical content of the conference, to chair the second track of Tuesday morning. But I was honored to introduce a young female student of the University. She presented four highly professional papers in less than three hours.

Thursday evening concluded with the Awards dinner. To mention a few, Bill Boze was honored for the best professional paper, Yan Pozhanka for the best student paper. His topic was “A Non-Conservative Assessment of the Feasibility of a Solar-Powered Airship for Mars”.

At the end the new elected officers were sworn in, Jason Booth as President, Chris Wandell as Executive VP and Karla Gregg as Senior VP. We have now three ladies as VP (33%) and only 2 retirees.



*Jason Booth, President; Karla Gregg, Senior VP; Chris Wandell, Executive VP; Bill Boze, Executive Director*

The desk with information about the next conference near Los Angeles was viewed as a very good idea, to be repeated. I fear I will have to carry a lot of baggage next year.

A few social events ran from Monday to Thursday.

I was approached by an employee of Embraer in Brazil. After the disbanding of their chapter in 2024 several former members feel left behind. The CEC-Excomm will discuss the possibility of providing a home for them until they are able to relaunch their chapter.

This was the first SAWE conference without the support of a host, but it was highly successful.



# SAWE Central European Chapter

## SAWE 86<sup>th</sup> International Conference 2027

Dirk Petersen

### We have won!

The SAWE Central European Chapter (CEC) will host the SAWE International Conference in 2027.

It is preliminary scheduled for 06. to 11. June 2027 in Hamburg. It is planned to have the conference in the Zentrum fuer Angewandte Luftfahrtforschung (ZAL) and a nearby hotel.

As you realize, both the schedule and the venue are unusual for a SAWE Conference. We will not stop here to do something new.

For this we need your support. Please help us to define a conference which is worthwhile to attend.

Provide us with your ideas, either by utilizing the [online-survey](#) and/or contacting Kim Mittler ([kim.mittler@airbus.com](mailto:kim.mittler@airbus.com)) or Dirk Petersen ([dirk.petersen@sawe.org](mailto:dirk.petersen@sawe.org)).

### LTH 152

Dirk Petersen

The 152st meeting of the LTH (Luftfahrt-technisches Handbuch) – Mass Analysis Panel – took place on 25th and 26th of March 2025. The meeting was hosted by the Technische Universität Berlin, namely its Head of Aircraft Design and Aerostructures Prof. Dr.-Ing. Andreas Bardenhagen and Andreas Gobbin, Research Associate.

Several presentations as well as the status of the four working groups were provided to the audience. The attendees were able to join a tour through the laboratories of the institute. In-between there was sufficient time for networking.

The 153rd LTH-Meeting will be scheduled for 8<sup>th</sup> and 9<sup>th</sup> July 2025 at the Zentrum fuer Angewandte Luftfahrtforschung GmbH (ZAL) in Hamburg.

### What's next?

Dirk Petersen

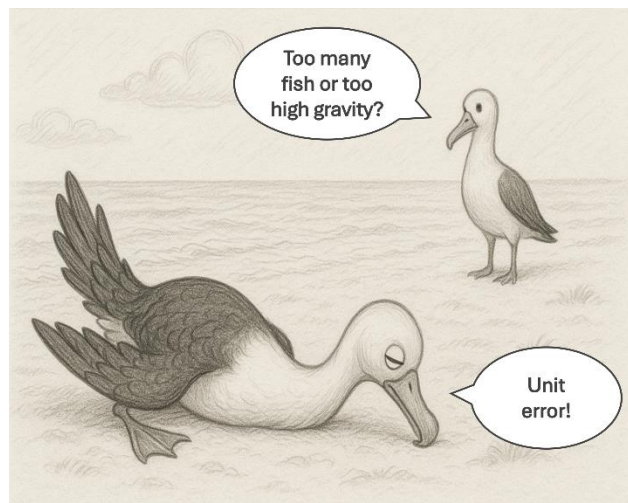
- LTH 153 08. and 09.07 2025, Hamburg
- CEC Membership Meeting – 23.10.2025 18:00 CEST – non-members welcome, no fee
  - **Microsoft Teams** [Need help?](#)
  - [Join the meeting now](#)
  - Meeting ID: 280 343 962 926 9
  - Passcode: DA2sR7vH
- LTH 154 – November 2025
- CEC Newsletter Winter 2026 – January 2026
- LTH 155 – March 2026
- CEC Membership Meeting – March 2026 – non-members welcome, no fee
- SAWE 85<sup>th</sup> International Conference – 16. – 22.05.2026, Valencia (north of Los Angeles), California, USA
- CEC Newsletter Summer 2026 – July 2026

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



## **Seriously!**

Dirk Petersen



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](#)”.