



# SHAPING THE IEEE COMMUNITY: INSIGHTS FROM IEEE AESS ENSIT SB CHAPTER

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# ASTRONOMICA

## WHAT IS ASTRONOMICA?

Astronomica is a yearly event organized by AESS ENSIT student branch. It's an event dedicated to the exploration of astronomy and aerospace we have organized so far 3 successful editions.

## ABOUT OUR 3 EDITIONS

### **ASTRONOMICA 1.0** **NOVEMBER 19, 2022**

During Astronomica 1.0, we discussed space exploration through the lens of history. Then, we conducted a workshop about CubeSats. Following that, universal gravitation using Python .



### **ASTRONOMICA 2.0** **FEBRUARY 25, 2023**

During Astronomica 2.0, we discussed the implementation of AI in the aerospace field. In fact, in recent years, astronomers have increasingly relied on AI to analyze large datasets, identify patterns, and make predictions. Then, we talked about the stars and the differences between Earth, Mars and the differences between Pluto, and pablo escobar . Following that, we conducted a workshop about star constellations, star tracking, and mastering the art of reading the skies.



### **ASTRONOMICA 3.0** **NOVEMBER 22, 2023**

During Astronomica 3.0, we discussed the importance of implementing cybersecurity in aerospace. Then, the aerospace field engaged with TELNET, which is a Tunisian company specialized in software development and electronic systems. Afterwards, TUNSA intervened to explore aerospace insights. Following that, we explored space, especially black holes. Finally, it was followed by a workshop dedicated to creating a CubeSat.



# NDE “NIGHT OF STARS”

## *WHAT IS NIGHT OF STARS?*

The "Nuits Des Étoiles" event, organized annually by CST Tunis Science City each summer, is a dynamic showcase of organizations dedicated to space exploration and astronomy. Through stands and presentations, participants engage with the latest developments in these fields, fostering curiosity and inspiring future endeavors in Aerospace, **on July 28, 2023**

## *ABOUT OUR PARTICIPATION*

Our recent participation in the NDE event, alongside ARES, the AESS's startup partner, was marked by an overwhelming presence and a genuine enthusiasm for our stand and club. The vibrant crowd created an immersive atmosphere, allowing participants to delve into the marvels of space and science. The compelling presentations ignited a profound interest in AESS initiatives, spotlighting advancements in structural health monitoring, materials science, and aerospace-specific non-destructive evaluation techniques. This exceptional turnout at “Nuit des étoiles” not only underscored our dedication to advancing aerospace and electronics systems but also celebrated the visitors' fervent curiosity towards our stand and club, exemplifying the shared passion for innovation that defines our collaboration with ARES.



# ASTRONOMICAL EVENINGS

## *WHAT ARE ASTONOMICAL EVENENINGS?*

Astronomical Evenings, hosted by CST Tunis Science City, offer engaging discussions on celestial events tailored to the evening's sky. These events feature workshops such as Stellarium for star tracking, enhancing understanding and appreciation of the cosmos. Join us for enlightening evenings under the stars, exploring the wonders of astronomy together.

## *ABOUT OUR 3 EDITIONS*

### ***JAMES WEB SPACE TELESCOPE***

It was situated in Tunis Science City on November 5th, 2022, where attendees had the unique opportunity to delve deeper into this awe-inspiring masterpiece and marvel at the intricate beauty of Jupiter and Saturn, complete with their majestic rings. Additionally, we were delighted to unexpectedly encounter the Minister of Health, who revealed himself to be an avid astronomy enthusiast, further enriching our experience with his shared passion.

"James Web Telescope":



### ***CALENDARS***

During the Astronomical evening calendars in Tunis science city on January the 28,2023, it was such a rewarding experience where we have widened our knowledge about calenders, comets and we had the chance to observe both Jupiter and the moon .

### ***SOLSTICE***

During the Astronomical evening solstice in Tunis science city on December the 22,2023, it was such a rewarding experience where we have widened our knowledge about solstice, guiding you through the winter constellations, revealing their stories, and shedding light on the classification of stars . We had the chance to observe both Jupiter and the moon .



# PRODUCTIVE SESSIONS

## STELLAR ANGULAR

On January 20, 2024, our school hosted a dynamic training session led by our expert instructor Ahmed Souissi. Ahmed, a distinguished entrepreneur and founder of Arès, boasts certifications in both AI and astronomy training, as well as extensive experience as an IT specialist and trainer. During the session, participants delved into the exploration of angular tools and their applications in the aerospace field. Through hands-on tasks and engaging activities, attendees gained practical insights into utilizing angular tools for various aerospace-related tasks. Furthermore, the session included a stimulating competition, fostering a spirit of collaboration and friendly competition among participants. This training not only enhanced participants' understanding of stellar angular concepts but also equipped them with valuable skills applicable to the ever-evolving aerospace industry.



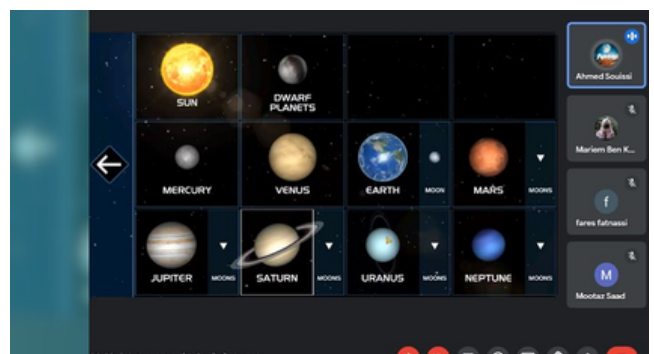
## AERODYNAMIC WORKSHOP

Over the course of the past two years, we have diligently conducted a series of workshops focusing on fundamental principles of aerodynamics under the guidance of Mr. Anis GUELBI. Mr. GUELBI, a former General Secretary of the Tunisian Aeronautic and Aeromodelism Federation (FTAA) and an instructor at the Aeronautical Maintenance Mediterranean Institute, has been leading these sessions. Our first workshop, titled "Basic Aerodynamics of Aircrafts with Fixed Wings," was divided into three sessions. The initial session took place on November 9, 2022, followed by another on November 16th of the same year. We then held an online review session on November 24th and concluded with the final session on January 25th, 2023. Throughout this workshop series, participants had the opportunity to learn the fundamentals of aerodynamics and gain insight into the scientific principles behind it, setting a solid foundation for further exploration.

## INTO SPACE SESSION

On August 22, 2023, Ahmed Souissi, the founder of the Arès platform, hosted a highly productive session, where his visionary journey through the universe captivated us.

This educational experience made the exploration of stars, planets, and galaxies accessible and engaging. Relive the thrill of this cosmic adventure that left us feeling inspired!




# PRODUCTIVE SESSIONS


## IOT WORKSHOP


On October 7 and 8, 2023, our school hosted a workshop in collaboration with IEEE IAS CHAPTER, featuring expert guidance from our seasoned instructor, Ellouze Amine. This workshop served as a gateway to exploring various domains, offering invaluable insights into the realms of technology. Through Masterful Automation, participants delved into crafting state-of-the-art automated irrigation systems, harnessing the power of IoT to revolutionize agricultural practices and optimize resource usage. Additionally, attendees gained IoT Mastery, equipping them with the skills to conceptualize and develop IoT solutions. These solutions enable remote device control, paving the way for innovation across industries such as smart homes, healthcare, transportation, and more. The workshop provided a comprehensive understanding of IoT's transformative potential, empowering participants to create impactful solutions that drive progress and efficiency in the digital age.




**Artificial Intelligence Workshop**  
WITH OUSSAMA BEN HADJ DAHMEN  
COINER IMPACT CO-FOUNDER  
CYBERSECURITY INSTRUCTOR & CYBER SECURITY EXPERT - HONORIS TUNISIA



 **FRIDAY**  
9TH OF FEBRUARY

 **7 PM**


 **ONLINE**

## AI IN CYBERSECURITY

Our trainer emphasized cybersecurity's vital role in aerospace, introducing diverse AI applications and highlighting their significance on February 9, 2023. From AI forms to cybersecurity applications, the session underscored AI's pivotal role in safeguarding aerospace systems. Explore the intersection of AI and cybersecurity for enhanced aerospace protection and efficiency.

## INFOSESSION WITH AESS PRESIDENT

During our info session with Dr. Sabrina Greco, AESS President, on January 24, 2024, Dr. Greco illuminated us on the invaluable perks of joining the AESS community and becoming a member. From networking opportunities to access to cutting-edge resources, the benefits are endless! But that's not all, she also gave us a sneak peek into the exciting future conferences lined up by AESS, promising enriching experiences and opportunities for growth.




January 2023 marks the 50th Anniversary of the IEEE Aerospace and Electronic Systems Society  
We encourage our members to celebrate at one of their meetings, conferences, and events.

Contact [admin@ieee-aess.org](mailto:admin@ieee-aess.org) to learn more.

[linktr.ee/ieee\\_aess\\_ensit\\_sb](https://linktr.ee/ieee_aess_ensit_sb)