

T.C.
İSTANBUL AYDIN UNIVERSITY



DEFENSE INDUSTRY
TECHNOLOGIES
APPLICATION and RESEARCH
CENTER

TAG:

T.C. İSTANBUL AYDIN UNIVERSITY

Doç. Dr. Mustafa AYDIN

İstanbul Aydın University Chairman of the
Board of Trustees

Prof. Dr. Yadiğar İZMİRLİ

İstanbul Aydın University Rector

Prof. Dr. Zafer ASLAN

İstanbul Aydın University Vice Rector
İstanbul Aydın University Research Centers Coordinator

Asst. Prof. Dilşad AKGÜMÜŞ GÖK

İAÜ SSTUAM Director

Inst. Serkan GÖK

İAÜ SSTUAM Deputy Director



**April 2021
No 2**



E-NEWSLETTER

Florya Campus (Halit Aydın Campus)
Beşyol Mah.Inönü Cad.No: 38
Sefaköy-Küçükçekmece / İSTANBUL
www.aydin.edu.tr | 444 1 428

Newsletter Design and Edited
by
Inst. Serkan GÖK



DEFENSE INDUSTRY TECHNOLOGIES APPLICATION and RESEARCH CENTER

The purpose of the Defense Industry Technologies Application and Research Center (SSTUAM), established within the body of Istanbul Aydın University, is to conduct research on defense technologies, to perform analysis, to carry out modeling, design, simulation and manufacturing studies, to monitor and evaluate defense technologies, to make technology predictions regarding defense technologies, to contribute for the development of defense technologies and industry by developing basic and technological infrastructure technologies, making engineering applications for needed systems and subsystems. At the same time, we aim to contribute to the infrastructure of our students who will graduate in the project-oriented studies carried out within our center.

Message of Director

The importance of the defense industry is increasing day by day in Turkey as well as in the rest of the world. Defense industry; It is an industrial sector that is not separated from the general industry, can produce and maintain the vehicles, equipment and weapons, ammunition required in the field of national defense and has a connection with manufacturing technologies. The defense industry is not only a commercial factor; at the same time, it is an industrial organization that considers and evaluates many issues such as reliability, strategic, confidentiality, low dependency and technological competence. The defense industry is an important field where the most advanced technology systems are used and constantly needs new technologies. It is a fact that the technologies developed in this field are used for civilian purposes later on, thus contributing to the socio-economic development of countries. Therefore, while the defense expenditures, which are inevitable for Turkey, continue, our aim is; Our aim is to make our country a product and technology producer in the field of defense industry in order to increase our country's national technology capability and to achieve economic and social gains.

Asst. Prof. Dilşad AKGÜMÜŞ GÖK
SSTUAM Director



EVENTS



İSTANBUL AYDIN
ÜNİVERSİTESİ

CANLI WEB YAYINI

Savunma Sanayisi için Gerçekleştirilen Analizlerin Önemi



Çağrı BOSTANCI
SimOfis Satış Müdürü



**Dr. Öğr. Üyesi
Dilşad AKGÜMÜŞ GÖK**
IAU SSTUAM Müdürü-IAU
Mühendislik Fakültesi
Makine Mühendisliği



Öğr. Gör. Serkan GÖK
IAU SSTUAM Müdür Yardımcısı-IAU
ABMYO Makine Program Başkanı

03 Mart 2021
17:30-19:00


Meeting ID: 951 0381 8175
Password: 4441428

www.aydin.edu.tr | @iaukampus

On Wednesday, 03.03.2021 at 17:30, the webinar titled "The Importance of Analysis for the Defense Industry" was held with 83 participants and SimOfis Mühendislik Sales Manager Mr. Çağrı BOSTANCI. The webinar was moderated by Istanbul Aydın University Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK and Deputy Director and Lect. Serkan GÖK.

In the webinar held, the designs made in the defense industry and the environmental conditions that these designs will be exposed to and the importance of the materials used were discussed.

It is expected that many of the products produced for the defense industry will operate in different environmental conditions and at the same time maintain their superior properties even under these conditions. The webinar about how the design will react to these conditions and how the results will be interpreted as a result of the analyzes made in line with the determined parameters has also been uploaded to the IAU SSTUAM youtube page for those who cannot watch it live.



The world is evolving

SIEMENS
Ingenuity for life

From mechanical components to smart systems
integrating mechanical, electrical, controls

From known material / production methods to mixed
materials, novel production methods

From defined options to mass customization and
personalization

From internet connectivity to system of systems and
internet of things

Structural analysis

SIEMENS
Ingenuity for life

Linear
Nonlinear
Modal
Buckling
Rotor dynamics

Simcenter
Samcef

NX Nastran

Multiphysics

Design space exploration



EVENTS



**İSTANBUL AYDIN
ÜNİVERSİTESİ**

İSTANBUL AYDIN ÜNİVERSİTESİ
SAVUNMA SANAYİ TEKNOLOJİLERİ
UYGULAMA VE ARAŞTIRMA MERKEZİ

SAVUNMA SANAYİSİNDE YORULMA ANALİZİ UYGULAMALARI

KONUŞMACILAR



**Buse Şimay
KARABULUT**
SimOfis Mühendislik
FEA Uygulama Mühendisi



**Çağrı
BOSTANCI**
SimOfis Mühendislik
FEA Satış Müdürü

MODERATÖRLER



**Dr. Öğr. Üyesi
Dilşad
AKGÜMÜŞ GÖK**
IAU SSTUAM Müdürü
IAU Mühendislik Fak. Makine
Mühendisliği Bölümü



**Öğr. Gör
Serkan
GÖK**
IAU SSTUAM
Maliye Yöneticisi
IAU ABMYO Makine Programı

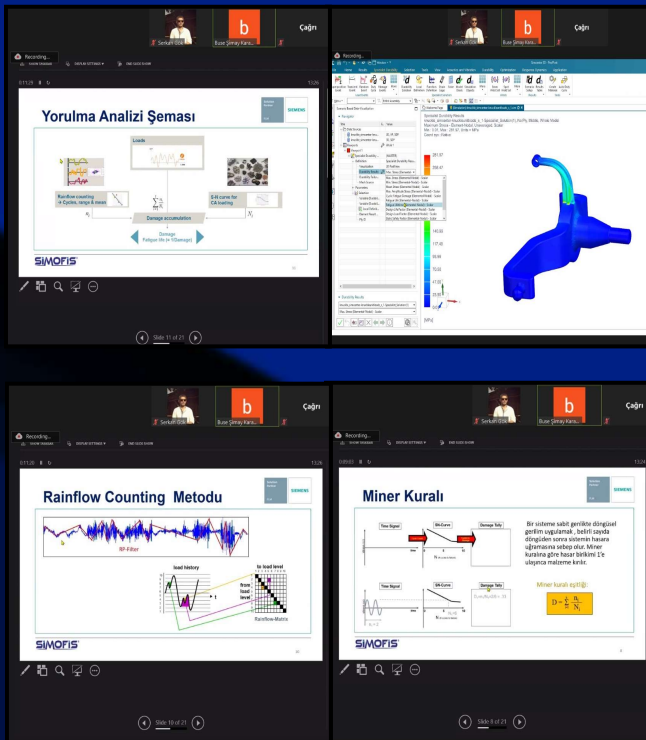
18. 03. 2021 **13.00 – 15.00**

zoom **CANLI WEB YAYINI**
Meeting ID: 988 0981 1223
Passcode: 4441428

On Thursday, 18.03.2021 at 13:00, the webinar titled "**Fatigue Analysis Applications in the Defense Industry**" was held with 78 participants, SimOfis Mühendislik Sales Manager Mr. Çağrı BOSTANCI and SimOfis Engineering FAE Application Engineer Buse Şimay KARABULUT. The webinar was moderated by İstanbul Aydın University Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK and Deputy Director and Lect. Serkan GÖK.

In the seminar, fatigue analyzes made in order to determine how long the produced parts can fulfill their duties were mentioned.

In this webinar, which emphasizes that it is very important to know the life of the products and parts produced in order to make a correct planning in the defense industry, general information about fatigue is also given and an example fatigue analysis is shown in practice. For those who could not watch the webinar live, it has been uploaded to the IAU SSTUAM youtube page.



The image shows four screenshots from a Zoom meeting. The top-left screenshot displays a flowchart titled "Yorulma Analizi Şeması" (Fatigue Analysis Scheme) with steps like "Damage accumulation" and "Failure". The top-right screenshot shows a 3D model of a blue part with a stress distribution heatmap. The bottom-left screenshot shows a "Rainflow Counting Metodu" (Rainflow Counting Method) graph with a blue waveform and a histogram. The bottom-right screenshot shows a "Miner Kuralı" (Miner Rule) diagram with a graph and a formula: $D = \sum \frac{n_i}{N_i}$.



EVENTS

İSTANBUL AYDIN ÜNİVERSİTESİ
SAVUNMA SANAYİ TEKNOLOJİLERİ UYGULAMA VE ARAŞTIRMA MERKEZİ

SAVUNMA SANAYİSİNDE KOMPOZİT KULLANIMI

KONUŞMACILAR

Burak DEMİRÖZ
SimOfis Mühendislik
FEA Uygulama Mühendisi

Çağrı BOSTANCI
SimOfis Mühendislik
FEA Satış Müdürü

MODERATÖRLER

Dr. Öğr. Üyesi Dilşad AKGÜMÜŞ GÖK
IAU SSTUAM Müdürü
IAU Mühendislik Fak. Makine Mühendisliği Bölümü

Öğr. Gör Serkan GÖK
IAU SSTUAM Müdür Yardımcısı
IAU ABMYO Makine Programı

CANLI WEB YAYINI
Meeting ID: 966 0327 8267
Passcode: 4441428

24. 03. 2021 13.00 – 15.00

Recording... Serkan Gök Buse Şimşek Kartal

Kompozit Malzemelerde İç Yapı Termosetler

SIEMENS

On Wednesday, 24.03.2021 at 13:00, the webinar titled “**Composite Usage in Defense Industry**” was held with 65 participants, SimOfis Mühendislik Sales Manager Mr. Çağrı BOSTANCI and SimOfis Engineering FAE Application Engineer Burak DEMİRÖZ. The webinar was moderated by İstanbul Aydın University Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK and Deputy Director and Lect. Serkan GÖK.

In the seminar, the place and importance of composite materials in the defense industry were discussed.

In addition to explaining the general information and production methods of composite materials, which are widely used in the defense industry, the webinar, where the simulation applications of composite materials and the parameters that need to be handled during these applications are mentioned, has also been uploaded to the IAU SSTUAM youtube page for those who cannot watch it live.



EVENTS



**İSTANBUL AYDIN
ÜNİVERSİTESİ**

İSTANBUL AYDIN ÜNİVERSİTESİ
SAVUNMA SANAYİ TEKNOLOJİLERİ
UYGULAMA VE ARAŞTIRMA MERKEZİ

SAVUNMA SANAYİSİNDE AKUSTİK ANALİZ UYGULAMALARI

KONUŞMACILAR



**Buse Şimay
KARABULUT**
SimOfis Mühendislik
FEA Uygulama Mühendisi



**Çağrı
BOSTANCI**
SimOfis Mühendislik
FEA Satış Müdürü

MODERATÖRLER



**Dr. Öğr. Üyesi
Dilşad
AKGÜMÜŞ GÖK**
IAU SSTUAM Müdürü
IAU Mühendislik Fak. Makine
Mühendisliği Bölümü



**Öğr. Gör.
Serkan
GÖK**
IAU SSTUAM
Müh. Yardımcısı
IAU ABMYO Makine Programı

31. 03. 2021 **12.00 – 14.00**

zoom **CANLI WEB YAYINI**
Meeting ID: 920 7442 2715
Passcode: 4441428

On Wednesday, 31.03.2021 at 13:00, the webinar titled “Acoustic Analysis Applications in Defense Industry” was held with 57 participants, SimOfis Mühendislik Sales Manager Mr. Çağrı BOSTANCI and SimOfis Engineering FAE Application Engineer Buse Şimay KARABULUT. The webinar was moderated by İstanbul Aydın University Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK and Deputy Director and Lect. Serkan GÖK.

In the webinar, general acoustic applications, what is encountered in the defense industry and the methods used in acoustic analysis were mentioned. Acoustic applications for the defense industry and how the boundary conditions for the application were defined, as well as the intended results, the webinar supported with sample geometries was uploaded to the IAU SSTUAM youtube page for those who could not attend live.

Serkan Gök Emir Buru Muhammet Dilşad AKGÜMÜ... Burak Demirez

General Pre-Processing Enhancements First stage auralization

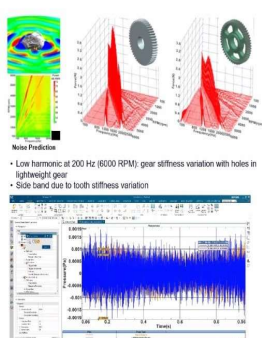
Listen to evaluate sound performance

Challenge:

- Sound quality captured in numeric indicators and graphs still need further visual interpretation by the NVH engineer
- Can we make sound performance evaluation still easier?


Solution:

- Simcenter 3D now supports playback of sound
- Sound quality can now be evaluated by anybody with headphones, NVH engineer, end product customer, ...
- Quick A-B comparison for sound quality. Example: effect of full or light-weight gears on radiated sound from a gearbox





EVENTS




**İSTANBUL AYDIN
ÜNİVERSİTESİ**


İSTANBUL AYDIN ÜNİVERSİTESİ
SAVUNMA SANAYİ TEKNOLOJİLERİ
UYGULAMA VE ARASTIRMA MERKEZİ

SAVUNMA SANAYİSİNDE ELEKTRONİK KOMPONENTLER İÇİN ANALİZ UYGULAMALARI

KONUŞMACILAR




Evren Yılmaz
YAKIN
SimOfis Mühendislik
CFD Uygulama Mühendisi




Çağrı BOSTANCI
SimOfis Mühendislik
FEA Satış Müdürü

MODERATÖRLER



**Dr. Öğr. Üyesi
Dilşad
AKGÜMÜŞ GÖK**
IAÜ SSTUAM Müdürü
IAÜ Mühendislik Fak. Makine
Mühendisliği Bölümü



**Öğr. Gör
Serkan
GÖK**
IAÜ SSTUAM
Müdür Yardımcısı
IAÜ ASMYO Makine Programı

07. 04. 2021 **14.00 - 16.00**

zoom **CANLI WEB YAYINI**
Meeting ID: 963 1431 3603
Passcode: 4441428

Extensive Experience of Frontloading with Simcenter FLOEFD Deployed Across All Industries and Applications

MIXING FLUIDS	REFRIGERANTS (Real Gas)	ELECTRONICS COOLING	AERODYNAMICS	JOULE HEATING
CAVITATION	CONDENSATION	HEAT EXCHANGER	ROTATING EQUIPMENT	PCB MODELING
COMBUSTION	RADIATION	NON-NEWTONIAN	VENTILATION	AEROHEATING
				SUPERSONIC

Simcenter FLOEFD Elektronik Soğutma Özellikleri

Komponent Seviyesi Elektronik komponentlerin tanımlanması Kompakt, Two-resistor, DELPHI (n-resistor) Package Creator: Detayları bilinen komponentlerin oluşturulması TEC, LED, Heat Pipe modellemesi Kütüphane: Piyasada sıkça kullanılan fan, termal pedi, gres gibi malzemelerin tanımlı olduğu kütüphane	PCB Seviyesi Elektronik devre tasarım yazılımlarında tasarlanan PCB'lerin CAD ortamına aktarımı PCB tanımlanması: - Kompakt Modelleme, - Katmanlı Delay Modelleme, - SmartPCB özelliği ile Voxel Mesh kullanarak belirli çözünürlüklerde Explicit Modelleme, - Tam Explicit Modelleme Joule Heating	Sistem Seviyesi Steady-State veya Transient çözüm imkanı iletim, Doğal veya Zorlanmış Tasarım çözüm imkanı Termal ve Solar Radyasyon çözüm imkanı, Dalga boyu, UV tanımlayabilme Multiphysics: Nem, yoğunlaşma, buharlaşma çözüm imkanı BCI-ROM technology iletim modellemesi mümkün, uzun soluklu transiyent çözüm gerektiren geometrilerin, MATLAB veya GNU-Octave yazılımlarında kısa sürede çözümlenebilmesi
--	---	--

Univertice | © SimOfis Mühendislik 2021 | 2021-04-07 | Siemens Digital Industries Software | Where today meets tomorrow. **SIMOFIS** **SIEMENS**

On Wednesday, 07.04.2021 at 14:00, the webinar titled "Analysis Applications for Electronic Components in the Defense Industry" was held with 50 participants, SimOfis Mühendislik Sales Manager Mr. Çağrı BOSTANCI and SimOfis Engineering CFD Application Engineer Evren Yılmaz AKIN. The webinar was moderated by İstanbul Aydın University Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK and Deputy Director and Lect. Serkan GÖK.



EVENTS

Ülkemiz İçin Yarattığımız Katma Değer **FNSS**

- Zırhlı Muharebe Araçları
- Özel Ürünler
- Geniş Ürün Portföyü
- Türk Markası

Değerlerimiz

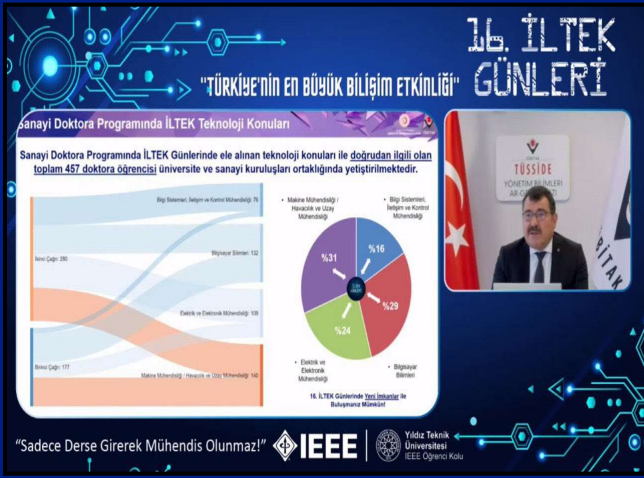
İnsansız Kara Araçları Teknoloji Gelişimleri

TUSAS ÜRÜN GELİŞTİRME SÜREÇLERİ

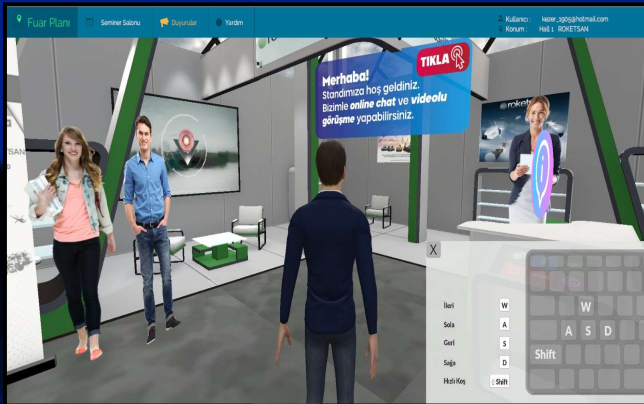
Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK and Deputy Director and Lect. Serkan GÖK participated in the "Defence Industry Summit" event organized by Yıldız Technical University on March 29-30, 2021.



EVENTS



Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK and Deputy Director and Lect. Serkan GÖK participated in the 16th ILTEK Days digital fair held on March 29-30-31, 2021.



E - NEWSLETTER

T.C. İSTANBUL AYDIN UNIVERSITY
DEFENSE INDUSTRY TECHNOLOGIES APPLICATION
and RESEARCH CENTER

No 2 / April / 2021



EVENTS



The preliminary application process has been successfully completed with the "**NOVA UAV**" team formed by our students in the "**Combat UAV Competition**" category within the scope of Teknofest 2021 Technology Competition, supervised by Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK , and the preliminary design report is awaited.

E - NEWSLETTER

T.C. İSTANBUL AYDIN UNIVERSITY
DEFENSE INDUSTRY TECHNOLOGIES APPLICATION
and RESEARCH CENTER

No 2 / April / 2021



EVENTS



As the Defense Industry Technologies Application and Research Center, a certificate of participation is prepared and sent to the participants for each of our webinars and events. More than 150 participation certificates have been prepared and sent for different webinars so far.



E - NEWSLETTER

T.C. İSTANBUL AYDIN UNIVERSITY
DEFENSE INDUSTRY TECHNOLOGIES APPLICATION
and RESEARCH CENTER

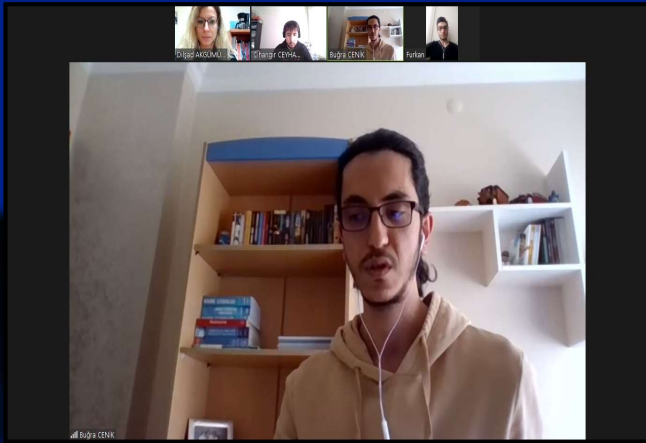
No 2 / April / 2021



EVENTS



Information meetings were held with the center directors and YUM students at the Defense Industry Technologies Application and Research Center.



E - NEWSLETTER

T.C. İSTANBUL AYDIN UNIVERSITY DEFENSE INDUSTRY TECHNOLOGIES APPLICATION and RESEARCH CENTER

No 2 / April / 2021



EVENTS



Defense Industry Technologies Application and Research Center Director Asst. Prof. Dilşad AKGÜMÜŞ GÖK participated in the "TUBITAK 1001 R&D Project Preparation Training in the Field of Engineering " event organized by Afyon Kocatepe University Technology Transfer Office on February 8-9-10, 2021.



CSWA (Associate) and CSWP (Professional) exams with international validity were conducted by Defense Industry Technologies Application and Research Center Deputy Director Lect. Serkan GÖK 3 times, at different times, for students, graduates, academic and administrative staff. In these exams, 80 people took the CSWA exam and 32 people took the CSWP exam, and a 50 percent success rate was observed.

E - NEWSLETTER

T.C. İSTANBUL AYDIN UNIVERSITY
DEFENSE INDUSTRY TECHNOLOGIES APPLICATION
and RESEARCH CENTER

No 2 / April / 2021



TEAM

Asst. Prof. Dilşad AKGÜMÜŞ GÖK

(SSTUAM Director)
İAÜ / Eng. Fac. / Mechanical Eng. Department

dilsadakgumus@aydin.edu.tr

Inst. Serkan GÖK

(SSTUAM Deputy Director)
İAÜ / ABMYO / Head of Machinery and Metal
Technologies Department

serkangok@aydin.edu.tr

Inst. Serkan KILIÇTEK

(SSTUAM Project Specialist)
İAÜ / ABMYO / Machine Program

skilictek@aydin.edu.tr

