

## **Asst. Prof. Kaan Yıldız**

### **Personal Information**

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### **International Researcher IDs**

ORCID: 0000-0002-2670-8619

Yoksis Researcher ID: 224493

### **Biography**

Kaan Yıldız graduated from Aeronautical Engineering department of Istanbul Technical University in 2013. Following his graduation, he started pursuing his master's degree and obtained it in 2015. Prior to his Ph.D. journey, he worked as a research and teaching assistant in the Aeronautical Engineering department for 7 months. After receiving a Ph.D. fellowship from TÜBİTAK, he started pursuing his Ph.D. degree under the supervision of Dr. George A. Lesieutre at Aerospace Engineering at The Pennsylvania State University. During his Ph.D. studies, he also worked as a graduate teaching assistant for a year, providing assistance to professors in various classes including structural dynamics, orbital mechanics, and structures laboratory. He completed his Ph.D. studies in 2018.

After the completion of his Ph.D., he returned to Turkey and started working as a postdoctoral researcher in the Aerospace Research Center with Dr. Hülya Cebeci. Since 2020, he has been working as an assistant professor at the Aviation Institute of Istanbul Technical University.

His current research interests include tensegrity structures, metamaterials and metastructures, space structures, nanocomposites, and structural dynamics.

### **Education Information**

Doctorate, The Pennsylvania State University, College of Engineering, Aerospace Engineering, United States Of America  
2015 - 2018

Postgraduate, Istanbul Technical University, Fen Bilimleri Enstitüsü, Aeronautical and Astronautical Engineering, Turkey  
2013 - 2015

Undergraduate, Istanbul Technical University, Uçak ve Uzay Bilimleri, Uçak Mühendisliği, Turkey 2009 - 2013

### **Foreign Languages**

Turkish, C2 Mastery

English, C2 Mastery

### **Dissertations**

Doctorate, Cable actuated tensegrity structures for deployable space booms with enhanced stiffness, The Pennsylvania State University, College of Engineering, Aerospace Engineering, 2018

Postgraduate, Dynamic analysis of adaptive aircraft wings modelled as thin-walled composite beams, Istanbul Technical University, Fen Bilimleri Enstitüsü, Aeronautical and Astronautical Engineering, 2015

## Research Areas

Aeronautical and Space Engineering

## Academic Titles / Tasks

Assistant Professor, Istanbul Technical University, Havacılık Enstitüsü, 2020 - Continues

Researcher, Istanbul Technical University, Uçak ve Uzay Bilimleri, Uçak Mühendisliği, 2018 - 2020

Research Assistant, The Pennsylvania State University, College of Engineering, Aerospace Engineering, 2016 - 2017

Research Assistant, Istanbul Technical University, Uçak ve Uzay Bilimleri, Uçak Mühendisliği, 2015 - 2015

## Academic and Administrative Experience

Erasmus Coordinator, Istanbul Technical University, Havacılık Enstitüsü, 2020 - Continues

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Sizing and prestress optimization of Class-2 tensegrity structures for space boom applications**  
Yıldız K., Lesieutre G. A.  
ENGINEERING WITH COMPUTERS, vol.38, no.2, pp.1451-1464, 2022 (SCI-Expanded)
- II. **Deployment of n-Strut Cylindrical Tensegrity Booms**  
Yıldız K., Lesieutre G. A.  
JOURNAL OF STRUCTURAL ENGINEERING, vol.146, no.11, 2020 (SCI-Expanded)
- III. **Fracture toughness enhancement of fuzzy CNT-glass fiber reinforced composites with a combined reinforcing strategy**  
Yıldız K., Gurkan I., Turgut F., CEBECİ F. Ç., Cebeci H.  
COMPOSITES COMMUNICATIONS, vol.21, 2020 (SCI-Expanded)
- IV. **Effective beam stiffness properties of n-strut cylindrical tensegrity towers**  
Yıldız K., Lesieutre G. A.  
AIAA Journal, vol.57, no.5, pp.2185-2194, 2019 (SCI-Expanded)

## Articles Published in Other Journals

- I. **KNT-Cam Fiber Takviyeli Kompozitlerin Kırılma Tokluğunun Birleşik Bir Güçlendirme Stratejisi ile İyileştirilmesi**  
Yıldız K., Gürkan İ., Turgut F., Cebeci H.  
Avrupa Bilim ve Teknoloji Dergisi, no.17, pp.1325-1333, 2019 (Peer-Reviewed Journal)
- II. **İnce Cidarlı Kompozit Kiriş Olarak Modellenmiş Uçak Kanatlarının Eğilme-Eğilme Bağlaşım Titreşiminin Aktif Kontrolü**  
Yıldız K.  
Avrupa Bilim ve Teknoloji Dergisi, no.17, pp.1274-1284, 2019 (Peer-Reviewed Journal)

## Refereed Congress / Symposium Publications in Proceedings

- I. Tuneable Carbon Nanotube Conductive Inks for an Effective Textile Based Respiratory Sensor System**  
Arslan D., Köseoğlu N., YILDIZ K., Güner H., OZDEN YENIGUN E., CEBECİ H.  
4th International Conference on the Challenges, Opportunities, Innovations and Applications in Electronic Textiles, Nottingham, England, 08 November 2022
- II. Establishing the Polymer Effect on The Viscoelastic Properties of CNTs Reinforced PEI and PEEK**  
KAYGINOK F., KARABAL M., YILDIZ A., YILDIZ K., CEBECİ H.  
25th International Conference on Composite Structures (ICCS25), Porto, Portugal, 19 July 2022
- III. Flexural Behaviour of Polyurethane Foam Filled High Performance 3-D Woven I-Beam Composites**  
Küçükalfa E., Dinçer M., Karıcı E., Vural M. A., Yildiz K., Ozden Yenigun E., Özkendirci B., Cebeci H.  
20th European Conference on Composite Materials, Lausanne, Switzerland, 26 June 2022
- IV. Investigation of the Mechanical Properties of Fuzzy CNT and CNT/CNC Composites with Different Reinforcing Strategies**  
Ertürk M., Yildiz K., Karıcı E., Özdiş M., Cebeci H.  
20th European Conference on Composite Structures, Lausanne, Switzerland, 26 June 2022
- V. Controlling the meso-scale assembly of cnts/pbi interlayers for toughening of thermoplastic composites**  
Yıldız K., Bozali B., Cebeci H., Ozden-Yenigun E.  
AIAA Scitech Forum, 2020, Florida, United States Of America, 6 - 10 January 2020
- VI. Effective stiffness properties of n-strut cylindrical tensegrity towers**  
Yildiz K., Lesieutre G. A.  
AIAA Spacecraft Structures Conference, 2018, Florida, United States Of America, 8 - 12 January 2018
- VII. A novel deployment strategy for tensegrity towers**  
Yildiz K., Lesieutre G. A.  
AIAA Spacecraft Structures Conference, 2018, Florida, United States Of America, 8 - 12 January 2018
- VIII. Compact Deployable Space Structures via Class-2 n-Strut Cylindrical Tensegrity Towers**  
YILDIZ K., Lesieutre G. A.  
28th International Conference on Adaptive Structures and Technologies, Krakow, Poland, 09 October 2017
- IX. Reconfigurable, Stiff Tensegrity Structures and a Modified Force-Density Method for Form Finding**  
YILDIZ K., Lesieutre G. A.  
27th International Conference on Adaptive Structures and Technologies, LAKE GEORGE, United States Of America, 03 October 2016
- X. Active vibration control applications for adaptive aircraft wings modelled as thin-walled composite beams**  
Yildiz K., Eken S., Kaya M. O.  
57th AIAA/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, 2016, California, United States Of America, 4 - 08 January 2016
- XI. Boundary Moment Control of Free Vibration of Adaptive Aircraft Wings Modeled as Thin-Walled Composite Beams**  
YILDIZ K., EKEN S., KAYA M. O.  
8th Ankara International Aerospace Conference, Ankara, Turkey, 10 September 2015
- XII. Optimal Control Procedure Application for Dynamic Response of Adaptive Aircraft Wings Modeled as Thin-Walled Composite Beams**  
Yıldız K., Eken S., Kaya M. O.  
6th International Conference on Mechanical and Aerospace Engineering, Rome, Italy, 16 - 17 July 2015, pp.287-291
- XIII. Active Vibration Control of Aircraft Wings Modeled as Thin-Walled Composite Beams Using Piezoelectric Actuation**  
YILDIZ K., EKEN S., KAYA M. O.  
ASME 2014 International Mechanical Engineering Congress and Exposition. American Society of Mechanical Engineers Digital Collection, Montreal, Canada, 14 November 2014
- XIV. Eksenel Uzama-Burulma Bağlaşımı Gösteren İnce Cidarlı Kompozit Kirişlerde Çarpılma Etkisinin**

## **İncelenmesi**

Yıldız K., Eken S., Kaya M. O.

V. Ulusal Havacılık ve Uzay Konferansı, Kayseri, Turkey, 8 - 10 September 2014, pp.1-7

### **XV. Piezoelektrik Malzemeler Yardımı ile Uçak Kanadının Aktif Titreşim Kontrolü**

Yıldız K., Eken S., Kaya M. O.

V. Ulusal Havacılık ve Uzay Konferansı, Kayseri, Turkey, 8 - 10 September 2014, pp.1-11

## **Supported Projects**

Yıldız K., Cebeci H., Arıkoğlu A., Küçükalfa E., Project Supported by Higher Education Institutions, Elastomerik

Nanoparçacık Katkılı Poliüretan Köpüklerin Dinamik Mekanik Özelliklerinin İncelenmesi, 2022 - Continues

Cebeci H., Özden Yenigün E., Yıldız K., TÜBİTAK International Bilateral Joint Cooperation Program Project, Remote

Respiration Monitoring Through Wearable Textile-based Sensors, 2021 - 2023

## **Scientific Refereeing**

ENGINEERING COMPUTATIONS, SCI Journal, August 2021

APPLIED MATHEMATICAL MODELLING, SCI Journal, January 2021

## **Metrics**

Publication: 25

Citation (WoS): 32

Citation (Scopus): 40

H-Index (WoS): 3

H-Index (Scopus): 3

## **Scholarships**

2224-A Yurt Dışı Bilimsel Etkinliklere Katılma Desteği, TUBİTAK, 2020 - 2020

2213-Yurt Dışı Lisansüstü Burs, TUBİTAK, 2017 - 2018

Graduate Teaching Assistant, University, 2016 - 2017

2213-Yurt Dışı Lisansüstü Burs, TUBİTAK, 2015 - 2016

2228-A Son Sınıf Lisans Öğrencileri için Lisansüstü Burs Programı, TUBİTAK, 2013 - 2015

2224-A Yurt Dışı Bilimsel Etkinliklere Katılma Desteği, TUBİTAK, 2014 - 2014