

# AWADE as the Asian Variant of a Workshop on Aircraft Design Education

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***Nanjing University of Aeronautics and Astronautics***

EWADE & READ 2018  
EWADE 2018 - 14th European Workshop on Aircraft Design Education  
Brno University of Technology, Czech Republic  
7th to 9th November 2018

EWADE Session  
08.11.2018, 14:10 to 15:50  
<http://Presentations2018.AircraftDesign.org>





# Hello from Nanjing,



## Hello from Nanjing University of Aeronautics and Astronautics





# Hello Brno,



## Hello to Brno University of Technology





# About EWADE

8 th EUROPEAN WORKSHOP ON AIRCRAFT DESIGN EDUCATION EWADE 2007. SAMARA 30.05-2.06.2007



Photos



Anatoliy Krelov.  
Kazan State  
Technical University. Russia



# Background and Aim

In November 2015 the participants of seminar of Institute of Aircraft Design Technology of Nanjing University of Aeronautics and Astronautics decided to organize on Asian continent the permanent Workshop on Aircraft Design Education. It had to be functionally similar to the European Workshop on Aircraft Design Education (EWADE). It was called Asian Workshop on Aircraft Design Education (AWADE). This workshop should be with the assistance of experts in the field of the Aircraft Design from all countries and including EWADE participants as well.





# Background and Aim

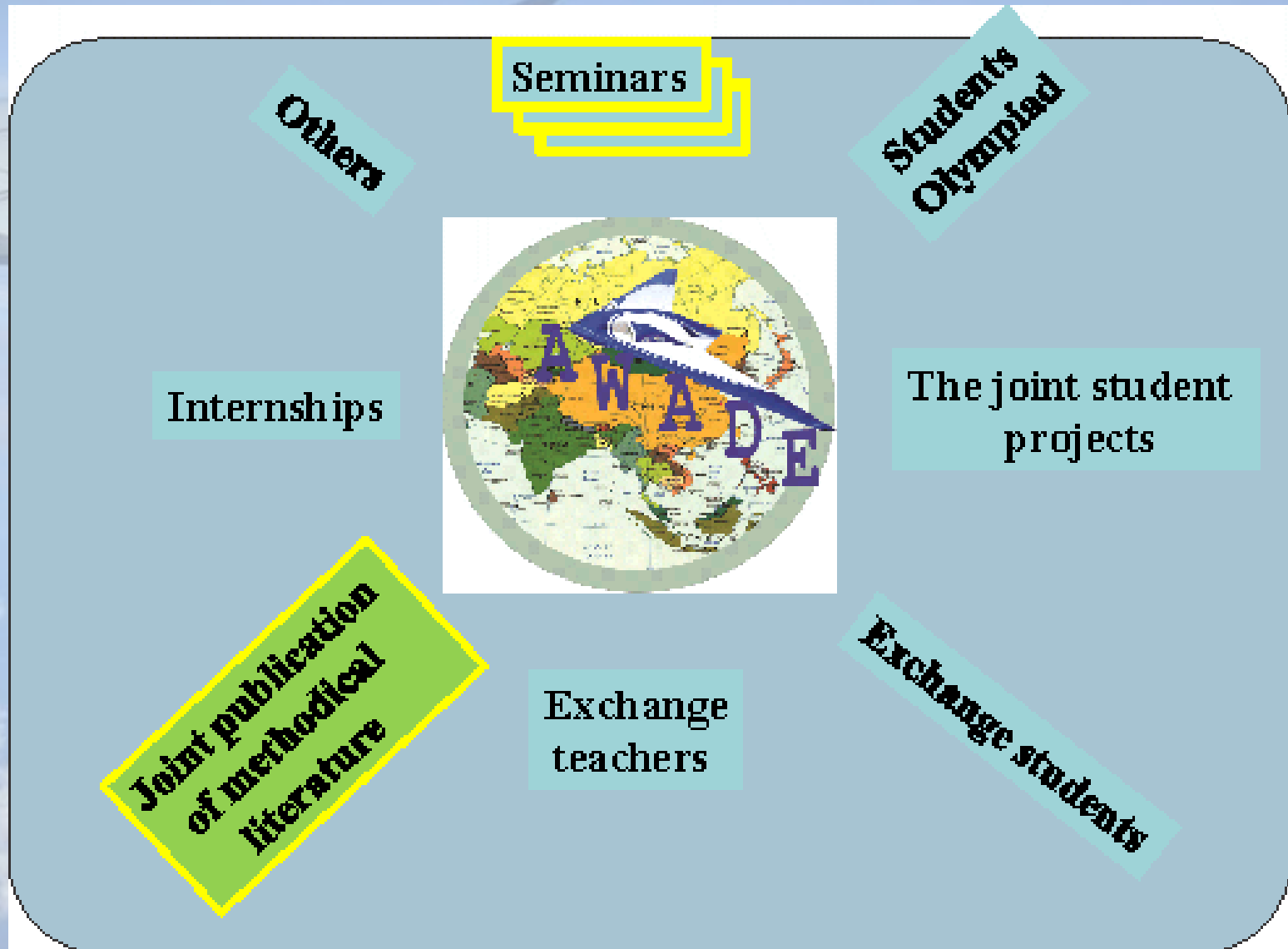
Important role in the preparing of aviation professionals playing the discipline “Aircraft design”. How to make this discipline more effective for studying, how to provide a better understanding it of students, how to help them to direct AD knowledge to implement fresh ideas and dreams. These questions have always existed and always remain relevant. And these questions can be decided by the realization of different forms of AWADE mission.



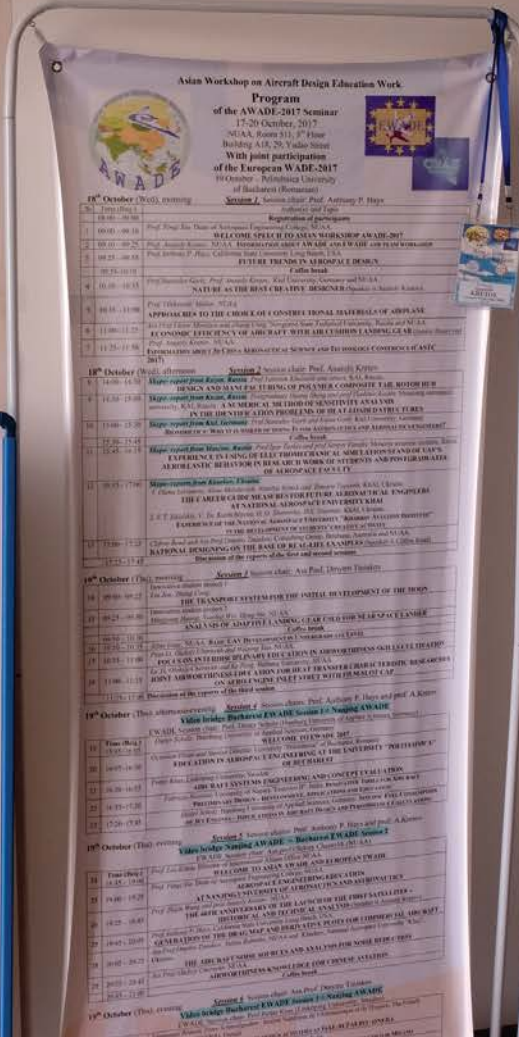
Asian Workshop on Aircraft Design Education

# Background and Aim

What is Asian Workshop on Aircraft Design Education?









# AWADE History

AWADE 2016.

The 1<sup>st</sup> Seminar October 8-11

**GREETINGS**  
FROM THE EUROPEAN  
WORKSHOP ON AIRCRAFT DESIGN EDUCATION  
TO THE ASIAN  
WORKSHOP ON AIRCRAFT DESIGN EDUCATION

WE WOULD LIKE TO OFFER OUR CONGRATULATIONS TO YOU ON THE ORGANIZATION OF THE AWADE, AND FOR YOU TO PLEASE ACCEPT THE BEST WISHES OF THE AWADE COMMUNITY.

WE WISH YOU EVERY SUCCESS IN RUNNING YOUR WORKSHOP AND HOPE THAT MANY FRUITFUL DISCUSSIONS AND EXCHANGES OF IDEAS TAKE PLACE. AIRCRAFT DESIGN IS THE CORE SUBJECT IN AERONAUTICAL ENGINEERING AND EXCHANGES OF IDEAS ARE OF PARAMOUNT IMPORTANCE.

WE ARE LOOKING FORWARD TO SEEING THE AWADE RESULTS ON THE INTERNET.

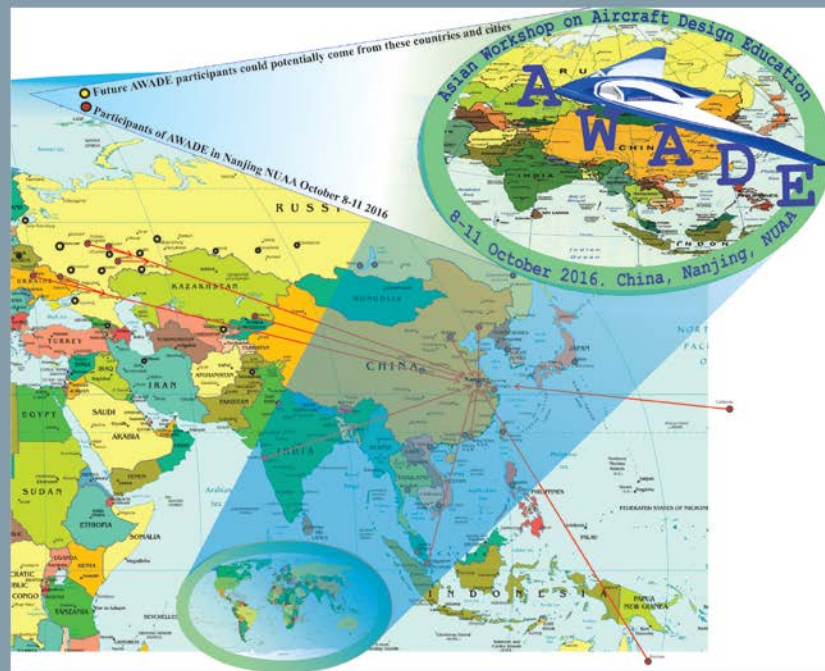
IN THIS WAY WE CAN ALL BENEFIT FROM THE OUTCOMES.

WE WOULD LOVE TO BE WITH YOU, BUT DISTANCE DOES NOT ALLOW THIS FOR MOST OF US – EVEN IF AVIATION HAS SHORTENED DISTANCES SO MUCH ALREADY.

WITH TYPICAL "AWADE-SPIRIT", WE WISH YOU PLEASANT DAYS.



## PARTICIPANTS OF THE 1<sup>ST</sup> AWADE SEMINAR





# AWADE History

AWADE 2017.

The 2<sup>nd</sup> Seminar October 17-20





# AWADE History

AWADE 2017.

The 2<sup>nd</sup> Seminar October 17-20

ASIAN WORKSHOP ON AIRCRAFT DESIGN EDUCATION 2017  
SESSION 4

Video bridge Bucharest EWADE Session 1 → Nanjing AWADE Session 4



ASIAN WORKSHOP ON AIRCRAFT DESIGN EDUCATION 2017  
SESSION 6

Video bridge Bucharest EWADE Session 3 → Nanjing AWADE Session 6



*Ass.Prof. Oleksiy Chernykh. NUAU.*  
AIRWORTHINESS KNOWLEDGE  
FOR CHINESE AVIATION



Discussion – Next EWADE and Cooperation  
with AWADE, READ, SCAD and CEAS 2019





# AWADE History

AWADE 2018, October 15-17.

## ABOUT AWADE-2018

New formula **AWADE**: Seminar + Student Design Competition  
with extensive use of Skype format





## Seminar's Directions

**1. Scientific issues of interest to undergraduates and graduate students facing the choice of their direction.**

**1.1. Anthony P. Hays** (California State University Long Beach, USA)

**Plenary presentation: Aircraft Design for Reduced Carbon Emissions**

**1.2. Dr. Victor Morozov** ("Aerorick" Enterprise, Ltd, Nizhny Novgorod, Russia) **Aircraft Using Ground Effect: History, Features, Efficiency Estimation and Prospect of Development**

**1.3. Prof. Stanislav Gorb.** (University of Kiel, Germany). **Structure and Properties of Dragonfly Wings: Composite Structure of Fibrous Material Supplemented by Resilin**

**1.4. Prof. A. Kretov** (NUAA) **Reusable Space Systems: from the Space Shuttle to the Saved of the First Stages**

**1.5. Prof. Valentine Khaliulin** (Kazan National Research Technical University, Russia) **Design and Manufacture Primary Load Carrying Parts of Aircraft from Composite Materials**

**1.6. Prof. Dalius Mazeika, prof. Piotr Vasiljev, prof. Sergejus Borodinas.** (Vilnius Gediminas Technical University, Vilnius, Lithuania) **Piezoelectric Motors for Micro Air Vehicle.**

**1.7. Clifton Read, Dmytro V. Tiniakov** (Brisbane, Australia and NUAA) **Civil Airplane Rational Designing on the Base of Aerodynamic Requirements.**

**1.8. Mingjie Zhong, S.V. Mrykin** (Beihang University, Beijing, China, Samara State University, Russia) **Overall Design and Energy Estimate of HALE Solar-Powered UAV**



# Content of AWADE-2018

## Seminar's Directions

### 2. Scientific and methodological issues related to the improvement of teaching methods of the course AD.

2.1. *Anthony P. Hays* (California State University Long Beach, USA)

#### **Initial Aircraft Sizing – a Critique**

2.2. *Wen Chih-Yung* (The Hong Kong Polytechnic University, China) **Project-based Aircraft Design Education at the Hong Kong Polytechnic University**

2.3. *Liia Makarova* (Kazan National Research Technical University Russia, NUAA, China) **Work Experience at the NUAA Summer Lecture**

2.4. *Anna Nechyporenko, Su Yan, Dmytro V. Tiniakov* (NUAA, China) **Review of Problems of Ensuring Reliability of Fuel Systems of Modern Supersonic Business Jet Airplanes**

2.5. *Clifton Read, Dmytro V. Tiniakov* (Brisbane, Australia and NUAA) **Flight on a Passenger Plane as the Process to Study the Aviation Basics**

2.6. *Oleksandr Moliar* (NUAA, China) **FEATURES OF THE USE TITANIUM ALLOYS IN THE CONSTRUCTION OF AEROSPACE SETTING**

2.7. *Stephane Tambwe, and Oleksiy Chernykh, and Dmytro Tiniakov* (NUAA, China) **Online Learning in Aeronautical Engineering Education at Some American Universities**



# Content of AWADE-2018

Continue

2.8. *Olena Litvinova, Alina Matskevich and others* (National Aerospace University KhAI, Kharkiv ,Ukraine)

**Teaching of Russian Language in the Framework of Sandwich Project Between**

2.9. *Fares Elsherbiny and Oleksiy Chernykh* (University of Politehnica, Bucharest Romania and NUAA, China)

2.10. *Diane Uyoga* (Moi University, Eldoret Kenya) **At the helm of Aeronautics**

## 3. Improving the content of curricula on AD

3.1. *ZhiJin Wang and Anatoly Kretov* (NUAA, China) **ABOUT THE CURRICULUM FOR FOREIGN NUAA STUDENTS-MASTERS ON AIRCRAFT ENGINEERING**

3.2. *Dmytro V. Tiniakov* (National Aerospace University KhAI, Ukraine and NUAA, China) **THE MAJOR CONTENT OF THE CURRICULA ON THE AIRPLANE DESIGNING DIRECTION IN NATIONAL AEROSPACE UNIVERSITY KHAI**

## Student Design Competition (individual competition)

SDC was being held in the modes of direct participation (NUAA) and Skype-conference (KhAI, Ukraine; KAI, Russia)



# Conclusions

## Common Conclusions

1. Work of AWADE for three years has shown the importance of this direction.
2. The use of modern computer technology can significantly expand the geography of participants and allows to hold various forms of with minimal cost.
3. Attracting students to work has increased their interest to AD.

## AWADE-2018 Conclusions

4. 27 works were presented at the Seminar. The number of authors was 49 from 13 countries (China, Russia, Ukraine, Germany, Romania, Lithuania, USA, Australia, Uzbekistan, Madagascar, Ghana, Congo and Kenya).
5. 14 bachelor and master students from three universities: NUAA, KhAI (Kharkiv, Ukraine), KAI (Kazan, Russia) took part in personal Student Design Competition (SDC).
6. According to the students, it is necessary in future to hold SDC at the team level in the format of AIRCRAFT design.











**Thank You For Attention!**

