



**TECHNICAL UNIVERSITY of KOSICE**  
**FACULTY OF AERONAUTICS**  
**SLOVAK REPUBLIC**



**ANNUAL REPORT  
2013**



SLOVAK REPUBLIC  
TECHNICAL UNIVERSITY OF KOŠICE  
**FACULTY OF AERONAUTICS**

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## PREFACE

The year 2013 was the 8th year of the Faculty of Aeronautics existence in the structure of the faculties of the Technical University of Kosice. However, in terms of history, it was an extraordinary development of its departments, because on 1 September 2013, 40 years have passed since the inception of its predecessor - the University of Military Aviation of the Slovak National Uprising in Kosice (later the Air Force Academy of GMRS), a prestigious educational institution for training pilots, air traffic controllers and aircraft engineering.

The main mission of the Faculty of Aeronautics is to perform tasks of the Technical University, especially in the area of air technologies, aeronautics and astronautics.

It provides university education in all three degrees of accredited study programs (7 study programs in the first degree, 3 in the second and 3 in the third degree) taking into account the requirements of national and European legislation and the relevant European aviation legislation. It is a holder of the Slovak Republic Civil Aviation Authority Certificate of Specialised Competence to provide theoretical preparation in the training of pilots and the Certificate for Maintenance Training Organization Approval, which authorises the faculty to train air technical personnel as required by aviation legislation of the European Union, thus considerably expanding the possibilities of applying its graduates to work abroad.

The faculty is administratively divided into 6 departments staffed with 64 science professors of these are 10 professors, 11 associate professors and 43 assistant professors providing education for more than 900 students in full-time and external form of bachelor, engineering and doctoral studies.

Graduates of the Faculty of Aeronautics find their positions in aviation companies and institutions and in organizations dealing with production, maintenance and repairs of air and operating equipment. Their education creates conditions for applying it in the electro-technical, mechanical engineering and computer companies, in the automobile industry, public and state administration, in the Air Force of the Slovak Armed Forces, in foreign trade etc. Graduates of the Faculty of Aeronautics have found employment in various foreign firms and organizations particularly in those related to aviation.

The science and research activity of the Faculty of Aeronautics covers a wide range of aviation disciplines of electrical engineering, mechanical engineering, air traffic operation and control.

Since its inception, the Faculty of Aeronautics focuses on organizing scientific and theoretical events, especially conferences, expert lectures on current topics and other activities. The Faculty of Aeronautics is involved in many significant projects and not only research projects APVV (2), KEGA (3), VEGA (6), but also nine of the EU structural fund projects (ASFU). It is also one of the participating members of the Seventh Framework Programme (FP7) - ESPOSA. The consortium consists of 39 countries, involving not only the EU countries, but also Ukraine, Russia and the USA. The project is dealing with new power plant systems that contribute to the overall higher efficiency of engines, greater safety and reduced pilot workload when in flight.

Within the research projects co-financed by EU structural funds, three new flight simulators were delivered to the Faculty of Aeronautics in 2013 providing a good basis for linking research with education and the involvement of students into research activities. Other important research facilities include:

the Research and Development Facility for the Investigation of Aircraft Antenna Technology,  
Aerodynamic Laboratory of Aerodynamic Wind tunnel Simulation,  
Laboratory of Intelligent Control Systems for Aircraft Engines  
Laboratory of Applied Magnetometry,  
Laboratories of Developed Unmanned Aerial Systems.

There are also projects focused on industrial and national economy, such as applied research - Research and Development of Magnetic Sensors and Systems of Search and Display of Ferromagnetic and Conductive Bodies, the Relationship between Structures and

## Properties of Nano-Crystalline Complex of Oxides Prepared by Mechanical-Chemical Methods and Many Others.

Both the staff and the students of the Faculty of Aeronautics are involved in research, development, design, testing, lecturing and applications of prospective technologies of unmanned aerial vehicles with focus on multi-rotor design solutions.

The important and distinguished scientific co-operation was established between the Faculty of Aeronautics and the Slovak Academy of Science, and both local and foreign universities, in the branch of applied magnetometrics and its applications related to safety, ecology and industry applications. Remarkable progress has also been achieved in aviation management and environment.

The basic tasks of the Faculty of Aeronautics include new international partnerships, and in particular, create opportunity for the implementation of relevant international projects within the Faculty. The centre of the interest is also to support young researchers and doctoral candidates in their efforts to establish a professional cooperation with the partner institutions abroad.

At present the Faculty of Aeronautics is maintaining close cooperation with the aviation institutions of universities and academies from abroad, such as College of Enterprise and Administration in Lublin Poland, Czech Technical University in Prague, University of West Bohemia in Plzen, Defence University Brno, University in Pardubice, University of Tomas Bata in Zlín, Czech Republic, WST AVIONICS Luftfahrelektronik GmbH, Germany, Vilnius Gediminas Technical University Litva, The State School of Higher Education in Chełm Poland, Wyższa szkoła oficerska Sił powietrznych Deblin and Państwowa Wyższa Szkoła Zawodowa, Chełmie, Poland.

Distinguished experts of the Faculty of Aeronautics are annually taking part in committees and are invited as reviewers of inauguration and habilitation works at foreign universities, lectures, to develop scientific cooperation and activities within Erasmus.

The Faculty of Aeronautics annually organizes major international scientific conferences "NEW TRENDS IN THE AVIATION DEVELOPMENT" and "AERONAUTICS" covering a wide range of aviation issues thus attracting broad international participation. An important activity is the editing of periodic publication of a prestigious peer-reviewed scientific journal the ACTA AVIONICA (since 1999).

For the Faculty of Aeronautics, as an organization training technical aircraft maintenance staff under PART 147, the year 2013 was a breakthrough. It was caused by the decision of the Civil Aviation Authority of the Slovak Republic (CAA SR) regarding the cancellation of the validity certificate of the organisation SK 147.0002 (issued by CAA SR on 12th March 2013) due to 18th October 2012 in the context of harmonizing legislation with EU requirements. The Faculty of Aeronautics submitted an application to the CAA SR to issue a new organization certificate under Part 147 on 27th February 2013, the certification audit was conducted in the period between 25th and 27th March 2013, and consequently after the confirmation audit the Faculty of Aeronautics received the certificate as a maintenance training organization of aviation technical personnel under PART 147 - CERTIFICATE CAA SR SK 147.0003 due to 15th May 2013.

Academic Ranking and Rating Agency (ARRA) published an evaluation of Slovak faculties and universities for the year 2013. In all, 109 faculties in 11 subject groups were evaluated. In the group of technically oriented faculties of the Slovak Republic, the Faculty of Aeronautics leaped from 19th place (in 2012) to 10th place. This positive trend of development would not have been possible without the individual activities of our employees who contributed to achieve the desired outcomes and assessment of the various areas of our work. Let's wish for all of us, the positive trend to be an impulse for the further successful development of our faculty in the upcoming years.

Yours Sincerely

prof. Ing. František Adamčík, PhD.

## CONTACTS

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FACULTY OF AERONAUTICS  
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Phone number: +421 (55) 602 61 02,  
Internet information: <http://www.tuke.sk/lf>



## KOSICE – THE RESIDENCE OF THE FACULTY OF AERONAUTICS TUKE

**Kosice** is the second largest city of the Slovak Republic. The first written reference to the city with the historical name CASSOVIA dates back to the 13th Century. In the first half of the 14th century Kosice had already been a free royal town. In December 1654, there was the first grammar school established in 1657 - the University of Academia Cassoviensis, renamed in 1776 to the Royal Academy - Academia Regia Cassoviensis. Kosice city is also interesting with its architecture. The old town has been declared an Urban Conservation Area. In the centre, the Cathedral of St. Elizabeth is known as one of the most monumental expression of Gothic art in Europe.

**The Technical University of Kosice** was established in 1952, but in the fact, the origin and roots of two from faculties go back to the 18<sup>th</sup> century and they are derived from the mining Academy in Banská Štiavnica. The University is a state-supported institution. At present, the University consists of nine faculties. It has more than 15 000 Master's and Bachelor's degree students, about 1000 PhD. students and 840 academic staff members.

**The Faculty of Aeronautics** was established on 1 February 2005 as a successor of the Air Force Academy of Milan Rastislav Stefanik in Kosice, which had been a prestigious educational institution in Europe and in the world having provided university education for pilots and air operating personnel for over 30 years. The main mission of the faculty is to contribute to the tasks of the Technical University, especially in the area of air technologies, aeronautics and astronautics. The faculty from its beginning has focused on complex aviation issues, has provided university education and has conducted the scientific research and development in traditional areas of aviation: the management and security of aviation, aerospace engineering, avionics and construction, maintenance and operation of

aeronautical products as a part of three scientific fields with accredited study programs at all three university degrees.

## **MANAGEMENT OF THE FACULTY OF AERONAUTICS**

Dean: prof. Ing. František ADAMČÍK, PhD.

e-mail: dekan.lf@tuke.sk

Vice-dean for science and research: doc. RNDr. Ladislav TOMČO, PhD.

e-mail: prodvc.lf@tuke.sk

Vice-dean for education: Ing. Peter KALAVSKÝ, PhD.

e-mail: prodpc.lf@tuke.sk

Secretary of the Faculty: Ing. Jozef DRABIŠČÁK

tajom.lf@tuke.sk

Chairman of academic senate: Ing. Juraj VAGNER, ENG-PAED IGIP

e-mail: juraj.vagner@tuke.sk

## **DEPARTMENTS OF FACULTY AND THEIR HEADS**

Department of Aerodynamics and Simulations

RNDr. Viera MISLIVCOVÁ, PhD.

kas.lf@tuke.sk.

Department of Avionics

Doc. Ing. Róbert BRÉDA, PhD.

ka.lf@tuke.sk

Department of Aviation Technical Studies

Doc. Ing. Dušan PRASLIČKA, PhD.

kltp.lf@tuke.sk

Department of Flight Training

Doc. Ing. Ján BÁLINT, PhD.

klp.lf@tuke.sk

Department of Aviation Engineering

Prof. Ing. Jozef POVAŽAN, PhD.

Ing. Marián HOCKO, PhD.

kli.lf@tuke.sk

Department of Air Transport Management

Doc. Ing. Slavomír KIŠ, PhD.

kmplf.lf@tuke.sk

**SCIENTIFIC BOARD**

Chair: Prof. Ing. František ADAMČÍK, PhD.

Vice - chair: Doc. RNDr. Ladislav TOMČO, PhD.

**Internal members:**

Ing. Peter KALAVSKÝ, PhD.

Prof. Ing. Josef BLAŽEK, PhD.

Prof. Ing. Milan DŽUNDA, PhD.

Prof. Ing. Tobiáš LAZAR, DrSc.

Prof. Ing. Martin PETRUF, PhD.

Prof. Ing. Jozef POVAŽAN, PhD.

Doc. Ing. Ján BÁLINT, PhD.

Doc. Ing. Jozef HUDÁK, PhD.

Doc. Ing. Slavomír KIŠ, PhD.

Doc. RNDr. Eva KOMOVÁ, PhD.

Doc. Ing. Ján LABUN, PhD.

Doc. RSDr. Ján POPRENDÁ, PhD.

Doc. Ing. Stanislav SZABO, PhD., MBA

Doc. Ing. Rudolf ZAHRADNÍČEK, PhD.

**External members:**

Assoc Prof. Ing. Marek GRZEGORZEWSKI, PhD.

Polish Air Force Academy in Dęblin, Poland

Col.(R) Phd ing. pil. Jarosław KOZUBA

Polish Air Force Academy in Dęblin, Poland

Dr. h. c. prof. Ing. Miroslav LÍŠKA, PhD.

Armed Forces Academy of GMRŠ, Slovakia

Dr. h. c. Prof. Ing. Ladislav MADARASZ, PhD.

Technical University of Kosice, Faculty of Electrical Engineering and Informatics, Slovakia

Doc. Ing. Jiří POLANSKÝ, PhD.

University of West Bohemia, Faculty of Mechanical Engineering, Czech Republic

Doc. Ing. Radislav ŠMÍD, PhD.

Czech Technical University in Prague, Faculty of Electrical Engineering, Czech Republic

Dr. h. c. Prof. Ing. Zdeněk VINTR, PhD.

University of Defence, Faculty of Military Technology, Czech Republic

Secretary: Ing. Martina MELICHEROVÁ

## ACADEMIC SENATE

Chair: Ing. Juraj VAGNER, ING-PAED IGIP

Vice-chairs: Doc. RNDr. Eva KOMOVÁ, PhD.  
Bc. Tomáš PUŠKÁŠ

Members: Ing. Robert KLÍR, PhD.  
Ing. František KMEC, PhD.  
Ing. Peter KOŠČÁK, PhD.  
Doc. Ing. Ján LABUN, PhD.  
Prof. Ing. Jozef POVAŽAN, CSc.  
Ing. Karol SEMRÁD, PhD.  
Simona BABICOVÁ  
Csaba KOVÁCS  
Filip KVAČKAJ

### Members of Academic Senate TUKE

PhDr. Anna ČEKANOVÁ, PhD.

Ing. Radoslav ŠULEJ, PhD.

## DEPARTMENTS

The scientific and teaching staff of the Faculty of Aeronautics, Technical University in Kosice includes six departments with specialized focus on different areas of aviation issues.

Academic Departments	Responsibilities
Department of Aerodynamics and Simulations	school subjects in aircraft machinery - aerodynamics, informatics, computer technology programming applied to mathematical analyses, linear algebra, analytical geometry, mathematics, physics
Department of Avionics	school subjects focused on avionics, airborne instruments, aircraft electrical systems, airborne radio and radio-technical systems and special systems of aircraft
Department of Aviation Technical Studies	related to the aviation engineering, aviation and industrial sensorics and magnetometrics, aviation mechanics and material, aviation electrotechnics, electronics and cybernetics
Department of Flight Training	preparation of the flying staff, personnel of air traffic control, simulator training of crews and air traffic controllers
Department of Aviation Engineering	preparation of a ground and flying staff in the aircraft design theory, aeronautical engines, ground servicing and airfield operations
Department of Air Transport Management	school subjects focused mainly on the area of management, organization and supervision of air

	traffic operations, economics and regulations of civilian managerial specialties
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## EDUCATION AND COURSES

### Courses offered

The Faculty of Aeronautics offers three types of full-time and part-time courses:

Bachelor's Degree courses (3 years) leading to degree Bc.

Master's Degree courses (2 years) leading to degree Ing.

Doctoral Study courses (3 years) leading to degree PhD.

Level	Title	Courses	Study field	
1.	Bc.	Air Transport Management	5.2.59.	Transport
	Bc.	Professional Pilot	5.2.59.	Transport
	Bc.	Air Traffic Controller	5.2.59.	Transport
	Bc.	Airport Operation	5.2.59.	Transport
	Bc.	Aircraft Operation	5.2.4.	Motor vehicles, rail vehicles, ships and airplanes
	Bc.	Avionics Systems	5.2.13.	Electronics
2.	Ing.	Air Transport Management	5.2.59.	Transport
	Ing.	Aircraft Operation	5.2.4.	Motor vehicles, rail vehicles, ships and airplanes
	Ing.	Sensorics and Avionics Systems	5.2.13.	Electronic
3.	PhD.	Air Transport Management	5.2.59.	Transport
	PhD.	Aircraft Operation	5.2.4.	Motor vehicles, rail vehicles, ships and airplanes
	PhD.	Aviation and Industrial Electronics Systems	5.2.13.	Electronics

## CREDIT-BASED SYSTEM

### STATISTICS

Present number of faculty staff members is 95 including 10 professors, 11 associate professors, 35 assistant professors, 10 research workers, 29 administrative staff and technicians.

### Number of students

The number of BSc. students is 520, number of MSc. students is 336 and number of PhD. students is 41.

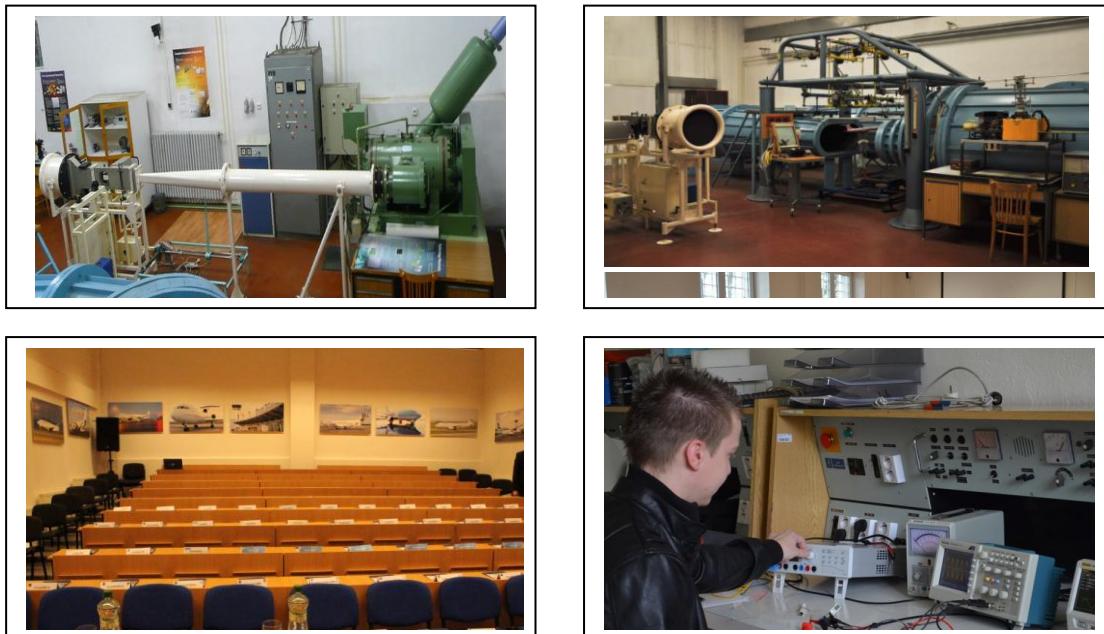
STUDY LEVEL	Full-time students	External students	Total
Bachelor	432	88	520
Engineer	248	88	336
Doctoral	23	18	41
			897

## DEPARTMENT OF AERODYNAMICS AND SIMULATION

### Contact

Address: Faculty of Aeronautics, Rampova 7  
041 21 Kosice  
web page: <http://web.tuke.sk/lf-kas>  
Phone No.: +421 55 602 6132

Head of Department: RNDr. Mislivcová Viera, PhD.  
E-mail: [viera.mislivcova@tuke.sk](mailto:viera.mislivcova@tuke.sk)  
Phone No.: +421 55 602 6130  
+421 918 691 170



### DEPARTMENT'S PROFILE

The department of Aerodynamics and Simulations was established on 1 September 2004 as a scientific and educational department of the Institute of Aeronautics. It was established as a result of the Air Force Academy of General Milan Rastislav Štefánik and Technical University in Kosice merging. After the transformation process on 1 February 2005 it became a part of the Faculty of Aeronautics.

The department is responsible for teaching subjects for aircraft machinery such as aerodynamics, basic laws and definitions in subsonic aerodynamics, aerodynamics of wing, steady and unsteady flight, aircraft flight characteristics, flight qualities, supersonic aerodynamics, experimental aerodynamics, subjects for aircraft and helicopter pilots such as principles of flight, basic laws and definitions subsonic aerodynamics, aerodynamics of wings (rotary wings of helicopter), steady and unsteady flight (aircraft and helicopter), aircraft flight

characteristics, flight qualities (aircraft and helicopter), supersonic aerodynamics. Other programmes include mathematics, physics, informatics, computer technology programming applied to mathematical analyses, linear algebra, analytical geometry, numerical mathematics, discrete mathematics, theory of probability, mathematical statistics, operational analysis, database information systems, computer networks, and managerial informatics.

It provides higher level education in all branches of science and specializations in all forms of studies: full-time and part-time, doctoral studies.

The research at the department is focused on Air Force issues with the emphasis laid upon unmanned aerial vehicles, areas of experimental aerodynamics, the use of simulation technologies for preparation of aviation personnel and crisis management, magnetic properties of selected nanocrystalline ferroalloys, studying the physical properties of systems consisting of containing fine magnetic particles, a problem of common and partial differential equations from the point of using numerical methods, problems of operational analysis, solving optimization problems in via graph theory, combinatorical structures and theory of hypergraphs, some issues concerning the process of teaching and learning applicable to technical subjects.

## STAFF

Professors: doc. RNDr. Ondrej HUDÁK, DrSc.

Associate Professors: doc. RNDr. Eva KOMOVÁ, PhD.  
doc. Ing. Dušan NEŠTRÁK, CSc.  
doc. RNDr. Ladislav TOMČO, PhD.

Assistant Professors: RNDr. Viera MISLIVCOVÁ, CSc.  
Ing. Peter GAŠPAROVIČ, PhD.  
Ing. Jozef GALANDA, PhD.  
Ing. Radko ŠULEJ, PhD.  
RNDr. Eva BARANOVÁ  
RNDr. Kristína BUDAJOVÁ, PhD.  
RNDr. Peter SZABÓ, PhD.  
RNDr. Katarína TIBENSKÁ, PhD.

Senior Scientists: Ing. Miroslav ŠTANCL

Secretary: Zuzana NIŽNÍKOVÁ

## LABORATORIES, SPECIALIZED FACILITIES

- Laboratory of Aerodynamics
- Laboratory for Fundamental Measurements of Hydromechanics and Thermomechanics and course in Physics
- Laboratory of Simulation
- Laboratory for Basic Course in Informatics

## TEACHING

### *Undergraduate Study (Bc.)*

Subject	Name of Lecturer
Mathematics 1	RNDr. Viera Mislivcová, PhD. RNDr. Eva Baranová
Mathematics 2	RNDr. Viera Mislivcová, PhD. RNDr. Eva Baranová doc. RNDr. Ondrej Hudák, DrSc.
Seminar in Mathematics 1	RNDr. Eva Baranová
Seminar in Mathematics 2	RNDr. Eva Baranová
Physics	doc. RNDr. Eva Komová, PhD. doc. RNDr. Ladislav Tomčo, PhD.
Seminar in Physics 1	RNDr. Katarína Tibenská, PhD.
Seminar in Physics 2	doc. RNDr. Ladislav Tomčo, PhD.
Physics 1	doc. RNDr. Ladislav Tomčo, PhD.
Physics 2	doc. RNDr. Ladislav Tomčo, PhD.
The Selected Chapters in Physics	doc. RNDr. Ladislav Tomčo, PhD.
Seminar in the Selected Chapters in Physics	RNDr. Katarína Tibenská, PhD.
Hydromechanics and Thermomechanics	doc. RNDr. Eva Komová, PhD.
Fundamentals of Informatics 1	Ing. Radko Šulej, PhD. Ing. Jozef Galanda, PhD.
Fundamentals of Informatics	Ing. Radko Šulej, PhD.
Fundamentals of Informatics II	RNDr. Peter Szabó, PhD.
Information Technology and Management	RNDr. Peter Szabó, PhD.
Computers and Computers Network Security	Ing. Jozef Galanda, PhD.
Information System Security	Ing. Jozef Galanda, PhD.
Aerodynamics and Flight Dynamics	Ing. Peter Gašparovič, PhD.
Principles of Flight I	doc. Ing. Dušan Neštrák, CSc.
Principles of Flight II	doc. Ing. Dušan Neštrák, CSc.
Aerodynamics and Flight Dynamics I	doc. Ing. Dušan Neštrák, CSc.
Aerodynamics and Flight Dynamics II	doc. Ing. Dušan Neštrák, CSc.
Principles of Flight	Ing. Peter Gašparovič, PhD.
Propellers	Ing. Peter Gašparovič, PhD.

### *Graduate Study (Ing.)*

Subject	Name of Lecturer
Aerodynamics and Flight Dynamics of Aircraft	Ing. Peter Gašparovič, PhD.
Applied Mathematics	RNDr. Kristína Budajová, PhD.
Applied Mathematics I	RNDr. Kristína Budajová, PhD.
Numerical Mathematics	RNDr. Kristína Budajová, PhD.
Applied Mathematics II	doc. RNDr. Ondrej Hudák, DrSc.
Applied Physics	doc. RNDr. Ondrej Hudák, DrSc.
Information Technology in Air Transport	Ing. Radko Šulej, PhD. Ing. Martin Ježný, PhD.

### *Postgraduate Study (PhD.)*

Subject	Name of Lecturer
The Selected Chapters of Mathematics	RNDr. Štefan Berežný, PhD. External Lecturer

### **RESEARCH PROJECT**

- APVV-0027-11: Domain-wall dynamics in thin magnetic microwires, Eva Komová(investigator)
- APVV-0266-10: Sensors based on magnetic microwires, Eva Komová (investigator)
- VEGA 1/0060/13: Formation and stability of magnetic properties of glass coated microwires, Eva Komová(investigator)
- 028TUKE-4/2013: An integrated program of study "Unmanned Aircraft Systems", Peter Gašparovič(investigator)
- VEGA 1/1117/11: Integration of automatic flight control algorithms with control algorithms of aircraft turbocompressor engines, Peter Gašparovič(investigator)
- VEGA 1/0143/13: The effect of magnetic dimension and spin anisotropy on the quantum processes in the geometrically frustrated systems, Katarína Tibenská(investigator)
- VEGA 1/0102/11: Methods and techniques of experimental modelling of in-plant manufacturing and non - manufacturing processes, Kristína Budajová (investigator)
- 26220120033: The building up of a centre for cooperative phenomena and phase transitions in nanosystems with perspective exploitation in nano- and biotechnologies, Ladislav Tomčo (investigator)
- OPV-2010/1.2/02-SORO: The educational centre for investigation and development of complex nanosystems, Ladislav Tomčo (investigator)
- VEGA 2/0077/09: The influence of different nanoparticles on both structural transitions in ferromematics and dielectric properties of magnetic fluids, Ladislav Tomčo (investigator)
- VEGA: Sensitivity of liquid crystals containing nanoparticles to external magnetic field, Ladislav Tomčo (investigator)
- ASFEU: The international virtual laboratory of progressive materials in Physics, Ladislav Tomčo (investigator)

### **CO-OPERATION**

#### *Co-operation in the Slovak Republic*

- Institute of Experimental Physics SAS, Košice
- Department of Electric Power Engineering, Faculty of Electrical Engineering and Informatics, TUKE
- Department of Power Engineering, Faculty of Mechanical Engineering, TUKE
- Faculty of Science, Pavol Jozef Šafárik University in Košice
- International Airport, Operations control, Košice
- Ministry of Interior and Ministry of Transport, Construction and Regional Development of the Slovak Republic
- TOMARK s.r.o., Prešov

#### *International Co-operation*

- Institute of Molecular Physics, Polish Academy of Science, Poznań

- Faculty of Computer Science, University of Vienna
- Institute of Physics ASCR, Prague
- Institute for Complex Systems, University of Rome

*Membership in International Organization and Societies*

- American Institute of Aeronautics and Astronautics (AIAA), USA

Ing. Peter Gašparovič, PhD.

- Fédération Aéronautique Internationale, Switzerland

Ing. Peter Gašparovič, PhD.

- American Mathematical Society, USA

RNDr. Peter Szabó, PhD.

*Membership in Slovak Organizations and Societies*

- The Association of Slovak Scientific and Technological Societies

doc. RNDr. Eva Komová, PhD.

- Slovak Physical Society

RNDr. Katarína Tibenská, PhD.

doc. RNDr. Ladislav Tomčo, PhD.

- Slovak Magnetical Society

doc. RNDr. Eva Komová, PhD.

doc. RNDr. Ladislav Tomčo, PhD.

- Scientific Board of Faculty of Aeronautics

doc. RNDr. Eva Komová, PhD.

doc. RNDr. Ladislav Tomčo, PhD.

*Contracts*

- European Community Action Scheme for the Mobility of University Students

RNDr. Eva Baranová, Technical University of Liberec, 27.5.2013-31.5.2013

- Inductica

doc. RNDr. Ladislav Tomčo, Berlin 3.6.-7.6.2013

## OTHER ACTIVITIES

*Project for Industry Companies*

- Design and Optimization of Multipurpose Aircraft Model

Ing. Peter Gašparovič, PhD. (investigator)

- Review of Suitability of Propulsion System for Aircraft Manufacturer

Ing. Peter Gašparovič, PhD. (investigator)

## GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	6	13	0

*Bachelor's Theses:*

NAME OF STUDENT	NAME OF THESIS
Filip Šidík	The Use of the GMI Effect in the Equipment for Air Transport
Ján Funda	A 3D Model of the Security Control at the Košice Airport
Mária Humeníková	Information Technology in Air Transport
Miroslav Šlávka	Aviation Company Manager and Data Backup

Július Varga	Development of Documentation by Aviation Company Managers
Tibor Albert	Information System Safety in an Aviation Company

**Master's Theses:**

NAME OF STUDENT	NAME OF THESIS
Michal Maťaš	The Stand for Electric Measurement of the Model Propeller Power Unit Performance in Wind Tunnel
Žofia Barlíková	Magnetic Micro-wires and Tailoring its Properties for Applications in Sensor Devices
Oľga Arvaiová	A Programming Course Not Just for Beginners
L'ubica Čontofalská	Algorithms in Aerodynamics
Katarína Istočková	Comparison and Review Websites of Aviation Faculties And Universities at the Present Time
Lukáš Korenko	Electronic Publishing in Academic Environment
Ondrej Latta	Data Backup and Restore in a Network Environment
Milan Gajan	Using Tablets with Android OS for Interactive Applications in In-Flight Entertainment Systems
Štefan Bartoš	Possibilities of Open Source Collaborative Software Usage on Faculty of Aeronautics
Michaela Bodnárová	Draft Security Solutions for the Aerospace Business Before Cybercrime
Viktor Šafranko	Manager Airline and its Active Protection Against Infiltrations
Ivona Valentíková	The Process of Passenger Air Transportation - Distance Study
Gabriela Ballová	Effects of Meteorological Phenomena on Air Transport Safety - Distance Study

**PUBLICATIONS****Books, textbooks**

- Vybrané kapitoly z aplikovanej informatiky/ Peter Szabó - 1. vyd. - Kosice : TU - 2013. - 85 s.. - ISBN 978-80-553-1434-1.  
[SZABÓ, Peter]
- Stručný úvod do lineárneho programovania / Peter Szabó - 1. vyd. - Kosice : TU - 2013. - 89 s.. - ISBN 978-80-553-1465-5.  
[SZABÓ, Peter]
- Helicopter Aerodynamics, Structures and Systems Vysokoškolská učebnica/ Ján Piľa ... [et al.] - 1. vyd. - Kosice : TU - 2013. - 410 s. [CD-ROM]. ISBN 978-80-553-1241-5.  
[PIĽ'A, Ján - NEŠTRÁK, Dušan - ADAMČÍK, František - LABUN, Ján - BRÉDA, Róbert - ANDOGA, Rudolf]
- Aircraft Aerodynamics, Structures and Systems Vysokoškolská učebnica/ Ján Piľa ... [et al.] - 1. vyd. - Kosice : TU - 2013. - 354 s.. - ISBN 978-80-553-1242-2.  
[PIĽ'A, Ján - POVAŽAN, Jozef - ADAMČÍK, František - NEŠTRÁK, Dušan - HOCKO, Marián - FÁBRY, Stanislav - HAJDUOVÁ, Zuzana]

**Journals**

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[SZABÓ, Peter]

- Severity Of Nocturnal Cardiac Arrhythmias Correlates With Intensity Of Sleep Apnoea In Men / E. Szaboova ... [et al.] - 2013. In: Advances in Experimental Medicine and Biology. Vol. 755 (2013), p. 155-168. - ISSN 0065-2598  
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- Facial R-Acyclic Edge-Colorings of Plane Graphs / Kristína Budajová, Július Czap - 2013. In: International Journal of Pure and Applied Mathematics. Vol. 85, no. 1 (2013), p. 141-147. - ISSN 1311-8080 Page: <http://www.ijpam.eu/contents/2013-85-1/11/11.pdf...>  
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- M2-Edge Coloring and Maximum Matching of Graphs / Kristína Budajová, Július Czap - 2013. In: International Journal of Pure and Applied Mathematics. Vol. 88, no. 2 (2013), p. 161-167. - ISSN 1311-8080  
[BUDAJOVÁ, Kristína - CZAP, Július]
- Multiple-Timescale Relaxation Dynamics in Csgd(Moo4)2—A Dipolar Magnet with a Highly Anisotropic Layered Crystal Structure / Vladimír Tkáč ... [et al.] - 2013. In: Journal of Physics : Condensed Matter. Vol. 25, no. 50 (2013), p. 6001-6001. - ISSN 0953-8984 Web page: <http://iopscience.iop.org/0953-8984/25/50/506001/article...>  
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- Magnetic Fluid in Ionizing Electric Field / Karol Marton ... [et al.] - 2013. In: Journal of Electrostatics. Vol. 71, no. 3 (2013), p. 467-470. - ISSN 0304-3886  
[MARTON, Karol - TOMČO, Ladislav - CIMBALA, Roman - KIRÁLY, Jozef - RAJŇÁK, I.M. - TIMKO, M. - KOPČANSKÝ, P. - KOLCUNOVÁ, Iraida - KURIMSKÝ, Juraj - GERMAN-SOBEK, Martin]
- Dielectric Response of Transformer Oil Based Ferrofluid in Low Frequency Range / M. Rajnak ... [et al.] - 2013. In: Journal of Applied Physics. Vol. 114, no. 3 (2013), p. 34313-1-34313-6. - ISSN 0021-8979  
[RAJŇÁK, M. - KURIMSKÝ, Juraj - DOLNÍK, Bystrík - MARTON, Karol - TOMČO, Ladislav - TACULESCU, A. - VEKAS, L. - KOVAC, J. - VAVRA, I. - TÓTHOVÁ, Jana - KOPČANSKÝ, P. - TIMKO, M.]
- Effect of Magnetic Nanoparticles with Various Geometrical Shapes on Morphology and Dielectric Properties of Nanodispersions of Nematic Liquid Crystal In Polymer Matrix / P. Kopčanský ... [et al.] - 2013. In: Semiconductor Physics, Quantum Electronics & Optoelectronics. Vol. 16, no. 3 (2013), p. 253-258. - ISSN 1560-8034  
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- Dielectric Properties of Magnetic Fluids Based on Transformer Oil ITO 100 In A High Frequency Electric Field / M. Rajnak ... [et al.] - 2013. In: Magnetohydrodynamics. Vol. 49, no. 3-4 (2013), p. 191-195. - ISSN 0024-998X  
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- Dynamic Susceptibility in a Paraelectric Phase in a Small Particle, Boundary Effects / Matej Hudak, Ondrej Hudák - 2013. In: International Journal of Modern Physics B. - 2013 Vol. 27, no. 9 (2013), p. 11. - ISSN 0217-9792  
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**Other Publications**

PUBLICATION TYPE	CONFERENCE PROCEEDINGS		OTHER
Number	Foreign	Home	8
	6	15	

**WE OFFER FOLLOWING SERVICES FOR COMMERCIAL SUBJECTS:**

Aerodynamic and thermodynamic analyses of aircraft, propellers, jet engines, wind turbines and ground vehicles by CFD methods. We have computational capacity for performing the CFD analysis of a complete vehicle at any Reynold numbers and both subsonic and supersonic flow regimes. We are able to provide results of surface pressure, skin friction and integral parameters (total lift, total drag...).

## DEPARTMENT OF AVIONICS

### Contact

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041 21 Kosice  
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### DEPARTMENT'S PROFILE

Department of Avionics was established on 1 September 2004 as one of the scientific and educational department of the Institute of Aeronautics in a merge of Air Force Academy of M.R Štefánik with Technical university of Kosice.

Department of Avionics provides courses focused on the following topics:

- avionics
- flight instruments,
- cybernetics aircraft systems,
- electronic aircraft systems,
- radio and radio technical aircraft systems,
- special onboard aircraft systems,
- aviation communication and information systems.

The main areas of fundamental and applied research at the Department include:

- increasing the share of international unification and certification of aviation education,

- modernization of educational and training techniques and technologies in aviation,
- mathematical modelling of aircraft characteristics and onboard electronic systems,
- use of aircraft radar altimeters for flight safety improvement,
- aircraft electromagnetic compatibility,
- satellite and inertial navigation system integration,
- control of complex thermodynamic processes when exposed to high pressure and temperature.

The Department of Avionics guarantees and performs conversion courses for pilots and engineers in aircraft practical parts within the areas of avionics, flight instruments, aircraft electronic systems, aircraft radio and radio technical systems and special onboard aircraft systems.

## **STAFF**

Professors:	prof. Ing. František ADAMČÍK, CSc. prof. Ing. Tobiáš LAZAR, DrSc.
Associate Professors:	doc. Ing. Róbert BRÉDA, PhD. doc. Ing. Ján LABUN, PhD. doc. Ing. Rudolf ANDOGA, PhD.
Assistant Professors:	Ing. Ján KABÁT, PhD. Ing. Rudolf KLECUN, PhD. Ing. Pavol KURDEL, PhD.
Secretary:	Oľga KIZEKOVÁ
Technical Staff:	Ivan KOLESÁR
PhD. Students:	Ing. Marek ČEŠKOVIČ Ing. Henrich GLASER – OPITZ Ing. Viktor KÉPEŠI Ing. Vladimír BEŇO Ing. Marián MIĽO

## **LABORATORIES, SPECIALIZED FACILITIES**

To provide courses and research activities, specialized classrooms and laboratories were built at the Department of Avionics:

- **Laboratory of Instruments and Electronic Instrument Systems**

The laboratory is intended for research and teaching in the fields of flight aerometrical and navigation instruments, airframe and engine instrument systems, aerometric computers, measuring and control systems for oxygen and altitude equipment, warning systems and systems for recording flight parameters used on board of aircraft.

- **Laboratory of Electrical Systems and Flight Control Systems**

The laboratory is intended for research and teaching in the field of electrical machines and automatic flight control systems. Laboratory is equipped for the purposes of measuring static and dynamic characteristics of aircraft generators and electromotors, measuring components of onboard electrical networks. The laboratory is designed for teaching courses focused on aircraft cybernetic systems included applications of adaptive and intelligent algorithms in avionic cybernetic systems.

- **Laboratory of Communication and Navigation Systems**

The laboratory is intended for research and teaching in the field of radio communication, radio technical and radio navigation aircraft systems. With its instrumental and material equipment, it enables to perform measurements with circuits, analyze functionality and operability of such systems.

- **Laboratory of Maintenance Procedures II**

The laboratory is intended for theoretical and practical courses in the field of general and specific principles, procedures for operation, maintenance and repairs of aircraft. Theoretical and practical part of the course is performed as required by Part 147 and Part 66.

- **Laboratory of Aircraft Equipment Devices**

The laboratory is intended for practical courses in the field of general and specific principles, procedures for operation maintenance and repairs of aircraft equipment.

- **Department of Aircraft Antenna Equipment**

This specialized department is intended for research and courses in the field of measuring and evaluating of polar and spatial radiation characteristics of aircraft antennas, analysis and definition of patterns for radiation, characteristics formation taking into account the position of antenna, frequency range, size, shape and type of aircraft. Laboratory equipment also enables to study radiation of devices with regard to their electromagnetic compatibility and allows diagnosing a radio and radio technical devices. The software laboratory equipment enables to model and simulate radiation characteristics of aircraft, helicopters, and antennas and also, if necessary, other objects.

- **Specialized Classroom**

The classroom is intended for practical courses using tools for modelling and simulation of aircraft dynamical movement, aircraft cybernetic systems and avionics systems in Matlab/Simulink programming environment. The classroom also offers virtual connection with Laboratory of intelligent control systems of aircraft engines for remote access to laboratory systems as well as operational monitoring and thermodynamic parameters for real time small jet engine testing.

## TEACHING

### Undergraduate Study (Bc.)

Subject	Name of Lecturer
Avionic systems	Ing. Rudolf Klecun, PhD.
Avionics I	Ing. Ján. Kabát, PhD.
Avionic Systems	Ing. Ján. Kabát, PhD.
Fundamentals of Avionics	doc. Ing. Róbert Bréda, PhD.
Avionics II.	doc. Ing. Róbert Bréda, PhD.
Aircraft Electrical Systems	doc. Ing. Rudolf Andoga, PhD.
Electronic Instrumental Systems II	doc. Ing. Róbert Bréda, PhD.
Aircraft Digital Technologies	doc. Ing. Rudolf Andoga, PhD.
Navigation Systems II	Ing. Pavol Kurdel, PhD.
Aircraft Electrical Systems	prof. Ing. František Adamčík, PhD.
Onboard Systems Management	Ing. Pavol Kurdel, PhD.
Semester Project	doc. Ing. Ján Labun, PhD.
Avionic Systems	Ing. Ján. Kabát, PhD.
Electronic Instrumental Systems I	doc. Ing. Róbert Bréda, PhD.
Navigation Systems I:	Ing. Pavol Kurdel, PhD.
Aircraft Communication Systems	doc. Ing. Ján Labun, PhD.
Aircraft Radiotechnical Systems	doc. Ing. Ján Labun, PhD.
Automatic Aircraft Control Systems	doc. Ing. Rudolf Andoga, PhD.
Maintenance Procedures II.	Ing. Ján. Kabát, PhD.
Bachelor Thesis	doc. Ing. Róbert Bréda, PhD.

### Graduate Study (Ing.)

Subject	Name of Lecturer
Aircraft Microwave and Antenna Technology	doc. Ing. Ján Labun, PhD.
Aircraft Communication Systems	doc. Ing. Ján Labun, PhD.
Aircraft Automated Control Systems	doc. Ing. Rudolf Andoga, PhD.
Aircraft Radiotechnical Systems	Ing. Rudolf Klecun, PhD.

Avionic Systems	prof. Ing. František Adamčík, PhD.
Semester Project II.	doc. Ing. Róbert Bréda, PhD.
Aircraft Control Systems	doc. Ing. Rudolf Andoga, PhD.
Semester Project I.	Ing. Ján Kabát, PhD.
Navigation Systems	Ing. Pavol Kurdel, PhD.
Aircraft Electronic Systems	doc. Ing. Rudolf Andoga, PhD.
Diagnostics and Reliability	Ing. Ján Kabát, PhD.
Diploma Thesis	doc. Ing. Ján Labun, PhD.

**Postgraduate Study (PhD.)**

Subject	Name of Lecturer
Subject of Theoretical Fundament I	prof. Ing. František Adamčík, PhD.
Subject of Specialization I	doc. Ing. Ján Labun, PhD.
Technical English	PhDr. Anna Čekanová, PhD.

**RESEARCH PROJECTS**

Title of the project	Package of Innovative Features for Education Reform at TUKE.
Type of the project	EU – OP Education
Number of the project	ITS code 26110230018;OPV - 2009/1.2/01 - SORO
Principal investigator	prof. Ing. František Adamčík, PhD.
Time period of the project	2010 – 2013
Annotation of the project	The main goals of the project are to achieve continuous adaptation of TUKE for the current and future needs of the knowledge society using innovation and quality education, to support career development of TUKE teachers, focusing on improving the quality of education, to support improvement of the education quality and human resource development in all areas of research and development at TUKE.

Title of the project	Integration of Automatic Flight Control Algorithms with Control Algorithms of Aircraft Turbo-Compressor Engines.
Type of the project	Grant project VEGA
Number of the project	1/1117/11
Principal investigator	doc. Ing. Rudolf Andoga, PhD.
Time period of the project	2011 – 2013
Annotation of the project	The aim of the project is the research and design of progressive algorithms increasing the integration level of flight and engine control systems with the aim to increase safety factors of flight, so in the eventual failure of a certain part of the flight control system, the aircraft would remain fully controllable by control of its engines. The second aspect of the project is a methodology increasing controllability and improvement in dynamic properties of aircraft in specific flight regimes like take-off or landing.

Title of the project	Building of a Research and Development Facility for Aircraft Antenna Equipment Research.
Type of the project	EU – OP Education
Number of the project	26220220130
Principal investigator	doc. Ing. Ján Labun, PhD.
Time period of the project	2011 – 2013

**Annotation of the project**

The project is focused on an application and research of aircraft antenna radiation characteristics forming placed directly on the aircraft taking into account the frequency range, size and shape of aircraft. The goal of project is realization of compact anechoic chamber, instrumentation and software equipment and automated measuring workstation for measurement of aircraft antenna radiation characteristics.

**Title of the project** Support for Improving the Quality of Universities and SAV.  
**Type of the project** EU – OP Education

**Number of the project** ITS codee OPV-2011/1.2/03-SORO

**Principal investigator** prof. Ing. František Adamčík, CSc.

**Time period of the project** 2013 – 2015

**Annotation of the project**

The goal of the project is the development of education innovative forms, rationalization and improvement of university study programs, preparation of new course materials for Avionic Systems on the Faculty of Aeronautics TUKE.

**Title of the project** Support for Improving the Quality of Universities and SAV.

**Type of the project** EU – OP Education

**Number of the project** ITS code, OPV-2012/1.2/05-SORO

**Principal investigator** prof. Ing. František Adamčík, CSc.

**Time period of the project** 2013– 2015

**Annotation of the project**

The goal of the project is the development of education innovative forms, rationalization and improvement of university study programs, preparation of new course materials for the course in Science and Experiment for doctoral studies at the FA TUKE.

**CO-PERATION****Co-operation in the Slovak Republic**

- Faculty of Electrotechnics and Informatics TUKE, Dr.h.c. prof. Ing. Ladislav Madarász, PhD.
  - SNA Flight school – BIDOVCE, Letisko Bidovce, 044 45 Bidovce okres Košice-okolie
  - TOMARK, s.r.o., Strojnícka č.5, 080 01 Prešov, Slovenská republika
  - Letecké opravovne Trenčín, a.s., Legionárska 160, 911 04 Trenčín, Slovenská republika
  - Velenie Vzdušných síl OS SR, Jána Jiskru 10, 960 01, Zvolen
- Pracovisko STM - Múzeum letectva, Letisko K o š i c e

**International Co-operation**

- Katedra leteckých elektrotechnických systémov, Fakulta vojenských technologií, Univerzita obrany, Kounicova 65, 662 10 Brno
- Katedra měření elektrotechnické fakulty ČVUT v Praze

**Membership in International Organizations and Societies**

- doc. Ing. Rudolf Andoga, PhD. – senior member of the American Institute for Aeronautics and Astronautics, USA

**OTHER ACTIVITIES**

- Department of Avionics organized the conference Aeronautika 2013 in Herľany on 25 – 26 April 2013 where doc. Ing. Ján LABUN, PhD was one of the conference supervisors.
- Members of the Department of Avionics took part in organization of the conference MOSATT 2013 on 24 – 26 September 2013 in Zlatá Idka, where one of conference

supervisors was prof. Ing. František ADAMČÍK, PhD., doc. Ing. Ján LABUN, PhD., doc. Ing. Róbert BRÉDA, PhD.

- Members of Department of Avionics participated in organization team of the conference SAMI 2013, the IEEE11th International Symposium on Applied Machine Intelligence and Informatics on 31 January – 2 February 2013 in Herľany.

## GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	14	12	5

### BACHELOR'S THESES

NAME OF STUDENT	NAME OF THESIS
BAŠISTA Matej	Helicopters Airborne UHF Radio
DIOSZEGI Róbert	Systems for Prediction of Critical Flight Regimes
DUCHOŇ Ondrej	Ignition Systems of Jet Aircraft Engines
DOMANIČ Peter	Alternately of The Replacement Radioaltimeter for Helicopter Mi-8
DUJNÍČ Martin	Electric Power Quality Requirements of Aircraft Electrical Power Sources
KIMÁK Dávid	Systems Built for Control and Diagnostics of Aircraft
KRCHŇÁK Martin	Types of Modulation Used in Communications in Aviation
LIPTÁK Pavol	Modelling and Simulation of Aircraft Electrical Power Systems
MOLČAN Matej	Proposal for Avionics Equipment, a Small Multi-Purpose Aircraft with a Takeoff Weight of 2000 Kg
NIŽNÍK Marek	The Application Spectrum Analyzer Attenuation Chamber
RÁCEK Stanislav	Pilot Alert on Wind Shear During Landing.
TARJÁNYI Juraj	Aircraft Antennas of DME
TÓTH Richard	Modern Aircraft Electrical Power Systems
NEMEŠÁNOVÁ Lívia	Communication and Information Environment of Regional Airports

### MASTER'S THESES

NAME OF STUDENT	NAME OF THESIS
Bc. BOROVSKÝ Martin	The Proposition of Small Utility Aircraft Electric Networks of 2000 kg Takeoff Weight
Bc. CSÁKI Róbert	The Position of Automatic Dependent Surveillance Aircraft - ADS-B
Bc. GLASER-OPITZ Henrich	Decoding M-QASK Signal of ADF III Generation
Bc. KOVÁČ František	Laboratory Equipment of Radio Communication System
Bc. MAŇKOŠOVÁ Ingrid	Complex Electronic Systems for Signalling and Indicating the Aircraft
Bc. MAZÚCH Peter	Identification of an Aircraft with the Mode S
Bc. NOVÁK Dominik	The Jet-Propelled Aero-Engine Exhaust Arrangement
Bc. ONDRIŠ Daniel	Simulation of The Dynamic Movement of Aircraft in a Virtual Environment of Flight Gear Simulator
Bc. ŠTEMPÁK Cyril	Frequency Bands Allocated for Air Traffic
Bc. URBANEC Ján	Modelling and Simulation of an Airborne Weather Radar
Bc. VÁNYI Peter	Mathematical Models of Channel and the Actual Speed of Mach
Bc. VAVRÍK Milan	Aircraft Board Antennas of Radio Systems
Bc. VOJTKO Ján	Optical - Electronic Modelling Systems VOR and DVOR
Maroš Tkáč	Ensuring Security at the Public Airport

## PUBLICATIONS

### Journals

- ANDOGA, Rudolf - MADARÁSZ, Ladislav - FŐZŐ, Ladislav - LAZAR, Tobiáš - GAŠPAR, Vladimír: Innovative Approaches in Modelling, Control and Diagnostics of Small Turbojet Engines. In: Acta Polytechnica Hungarica. Vol. 10, no. 5 (2013), p. 81-99. - ISSN 1785-8860
- MADARÁSZ, Ladislav - GAŠPAR, Vladimír - RUDAS, Imre - ANDOGA, Rudolf - GAŠPAR, Ľuboš: Proposal of Dissemination and Broadcasting of Laboratory Data Within Small Time Latencies. In: Acta Mechanica Slovaca. Roč. (17), č. 3 (2013), s. 26-32. - ISSN 1335-2393
- ANDOGA, Rudolf - FŐZŐ, Ladislav - MADARÁSZ, Ladislav - KAROL, Tomáš : A Digital Diagnostic System for a Small Turbojet Engine. In: Acta Polytechnica Hungarica. Vol. 10, no. 4 (2013), p. 45-58. - ISSN 1785-8860
- BRÉDA, Róbert - PATZ, Tomáš: Design of Measurement Chain to Measure R.P.M. of an Aviation Turbo Jet Engine. In: Przeglad Elektrotechniczny. Vol. 89, no. 3a (2013), p. 141-144. - ISSN 0033-2097
- BRÉDA, Róbert - BEŇO, Vladimír: Modelling of Control Circuit of Aircraft Fuel System. In: Przeglad Elektrotechniczny. Vol. 89, no. 4 (2013), p. 172-175. - ISSN 0033-2097
- BRÉDA, Róbert - LAZAR, Tobiáš - ANDOGA, Rudolf - MADARÁSZ, Ladislav: Robust Controller in the Structure of Lateral Control of Maneuvering Aircraf. In: Acta Polytechnica Hungarica. Vol. 10, no. 5 (2013), p. 101-124. - ISSN 1785-.
- MADARÁSZ, Ladislav - LAZAR, Tobiáš - GAŠPAR, Vladimír - ANDOGA, Rudolf: Komplexný výskum efektívnosti a inovácia technológie skúšok malého prúdového motora (1). In: ATP Journal. Č. 9 (2013), s. 58-62. - ISSN 1335-2237
- KÉPEŠI, Viktor - LABUN, Ján - ČEŠKOVÍČ, Marek - MIĽO, Marián: Impact of Additional Antenna on Antenna. In: Acta Avionica. Roč. 15, č. 26 (2013), s. 11-13. - ISSN 1335-9479
- LABUN, Ján - GLASER-OPITZ, Henrich: Airport Positioning System. In: Acta Avionica. Roč. 15, č. 26 (2013), s. 27-33. - ISSN 1335-9479
- MADARÁSZ, Ladislav - LAZAR, Tobiáš - ANDOGA, Rudolf - FŐZŐ, Ladislav - GAŠPAR, Vladimír: Komplexný výskum efektívnosti a inovácia technológie skúšok malého prúdového motora (2). In: ATP Journal. Roč. 20, č. 10 (2013), s. 58-61. - ISSN 1335-2237
- BELEJ, Rastislav - LABUN, Ján: Antenna Model for Aircraft Broadband Comunication. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- GLASER-OPITZ, Henrich - LABUN, Ján: Decoding M - qask signal ADF 3. Generation. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479
- KYSEL, Stanislav - LABUN, Ján: Diffraction of EM Radiation on Helicopter. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-3. - ISSN 1335-9479
- URBANEC, Jan - KLECUN, Rudof: Modelling and Simulation of Airborne Weather Radar. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- VOJTKO, Ján - LABUN, Ján: Optical-Electronic Modelling of VOR and DVOR Systems. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-7. - ISSN 1335-9479
- VÁNYI, Peter - BRÉDA, Róbert: Mathematical Models of Channel and Actual Speed of Mach. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-6. - ISSN 1335-9479
- MADARÁSZ, Ladislav - LAZAR, Tobiáš - ANDOGA, Rudolf - FŐZŐ, Ladislav - JUDIČÁK, Jozef - GAŠPAR, Vladimír: Komplexný výskum efektívnosti a inovácia technológie skúšok malého prúdového motora (3). In: ATP Journal. Č. 11 (2013), s. 58-61. - ISSN 1335-2237
- MADARÁSZ, Ladislav - LAZAR, Tobiáš - ANDOGA, Rudolf - NYULÁSZI, Ladislav - GAŠPAR, Vladimír: Komplexný výskum efektívnosti a inovácia technológie skúšok malého prúdového motora. In: ATP Journal. Č. 12 (2013), s. 49-52. - ISSN 1335-

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- KÉPEŠI, Viktor - LABUN, Ján - ČEŠKOVIČ, Marek - KURDEL, Pavol - MIĽO, Marián: Automating Measurement of Radiation Pattern in Lab view. In: Acta Avionica. Roč. 15, č. 28 (2013), s. 6-10. - ISSN 1335-9479
- KABÁT, Ján - KRAJNÁK, Peter: Diagnostics of RD-33 Engines. In: Acta Avionica. Roč. 15, č. 26 (2013), s. 42-45. - ISSN 1335-9479
- MIĽO, Marián - LABUN, Ján - ČEŠKOVIČ, Marek - KÉPEŠI, Viktor: Methodical Error of Low Altitude Altimeters and Possibilities of its Improvement. In: Acta Avionica. Roč. 15, č. 26 (2013), s. 50-53. - ISSN 1335-9479
- LAZAR, Tobiáš - ADAMČÍK, František - BRÉDA, Róbert: Actual Problems of Education in Avionics. In: Acta Avionica. Roč. 15, č. 26 (2013), s. 58-61. - ISSN 1335-9479
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- FIGNÁR, Jakub - LABUN, Ján: Impact of Helicopter Design on Radiation Pattern of its Atnennas. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- MAŇKOŠOVÁ, Ingrid - BRÉDA, Róbert: Complex Systems for Electronic Indication and Signalling of Aircrafts. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-7. - ISSN 1335-9479
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- GAŠPAR, Vladimír - MADARÁSZ, Ladislav - ANDOGA, Rudolf - FŐZŐ, Ladislav - JUDIČÁK, Jozef: Operational Constraints Definition of a Turbojet Engine MPM 20. In: SAMI 2013 : IEEE 11th International Symposium on Applied Machine Intelligence and Informatics : proceedings : January 31 - February 2, 2013, Herľany, Slovakia. - Budapest : IEEE, 2013 P. 215-219. - ISBN 978-1-4673-5927-6
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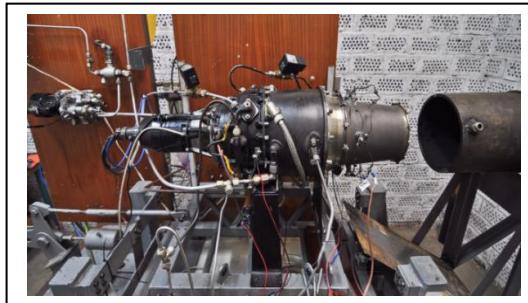
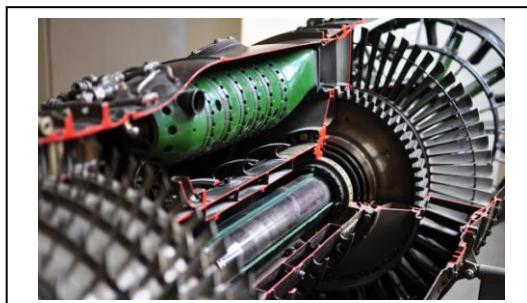
## DEPARTMENT OF AVIATION ENGINEERING

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### DEPARTMENT'S PROFILE

The Department is responsible for teaching subjects concentrated mainly on theoretical preparation of ground and flying staff in a theory of aircraft design, aeronautical engines, ground servicing and airfield operation as well as practical training of ground and flying crew in the areas mentioned. It provides short and medium-term conversion courses for the Air Force staff in type-rating for aircraft, servicing and support equipment.

Guarantee to higher level education is assumed for the areas as follows:

- Master's degree programmes in Aviation Mechanical Engineering, specialty: Operation, Maintenance and Repair of Aircraft and Aviation Engines, and Airfield Technical and Operational Support

- Bachelor's degree programmes in Aircraft Operation
- Doctoral studies in Aviation Armament and Equipment, specialty: Design, Operation, Maintenance and Repair of Aircraft and Aviation Engines, Means of Airfield Operation and Technical Support.

Research is conducted especially in the areas of design of aircraft and aviation engines, design of ground support facilitating the operation of aircraft and aviation engines, supervision and provision of jobs related to the operation of aircraft and aviation engines, supervision and provision of airfield support and ground servicing of aircraft and aviation engines.

The Department is divided into:

- Section of Aircraft and Aviation Engines
- Section of Airport Operation and Support
- Group of Technical Support of Teaching Aviation Equipment.

## STAFF

Professors: prof. Ing. Jozef POVAŽAN, CSc.  
prof. Ing. Martin PETRUF, PhD.

Associate Professors: doc. Ing. Peter MRVA, CSc.  
doc. Ing. Ján PIL'A, PhD.

Assistant Professors: Ing. Ján FERENC, PhD.  
Ing. Ladislav FŐZŐ, PhD.  
Ing. Marián HOCKO, PhD.  
Ing. Jozef JUDIČÁK, PhD.  
Ing. Ján KOLESÁR, PhD.  
Ing. Peter KOŠČÁK, PhD.

Senior Scientists: Ing. Peter KORBA, PhD.

Technical Staff: Ing. Jiří SYROVÝ  
Ing. František ADAMČÍK  
Jaroslav PAROULEK  
Marián EPERJEŠI

Secretary: Dáša BAČÍKOVÁ

PhD. Students: Ing. Miroslav SPIŠÁK  
Ing. Peter MALATÍN  
Ing. Maroš KOMJATÝ  
Ing. Miroslava CÚTTOVÁ

## LABORATORIES, SPECIALIZED FACILITY

The Laboratory of Intelligent Control Systems of Jet Engines (LIRSLM in Slovak) is situated in premises of the Faculty of Aeronautics of the Technical University in Kosice. Our science and research activities in the LIRS LM mainly consist of solving the problems in the

Engine control, diagnostics, safety, effectiveness and reliability of the small turbojet engine MPM 20.

## TEACHING

### Undergraduate Study (Bc.)

Subject	Name of Lecturer
Aircraft Structures and Systems I	Ing. Jozef JUDIČÁK, PhD.
Structural Mechanics of aircraft structures I	Ing. Jozef JUDIČÁK, PhD.
Aviation Legislation	Ing. Marián HOCKO, PhD.
Aircraft Structures and Systems II	Ing. Jozef JUDIČÁK, PhD.
Aircraft Engines I	Ing. Marián HOCKO, PhD.
Maintenance Procedures I	Doc. Ing. Peter MRVA, CSc.
Air Force Legislation	Ing. Marián HOCKO, PhD.
Aircraft Engines II	Ing. Marián HOCKO, PhD.
Maintenance Procedures II	Doc. Ing. Peter MRVA, CSc.
Organization and Management of air Traffic	Doc. Ing. Peter MRVA, CSc.
Semester Project	Ing. Marián HOCKO, PhD. Ing. Jozef JUDIČÁK, PhD. Doc. Ing. Peter MRVA, CSc
Maintenance Procedures III	Doc. Ing. Peter MRVA, CSc.
Airports and Airport Traffic Service	
Bachelor Thesis	Ing. Marián HOCKO, PhD. Ing. Jozef JUDIČÁK, PhD. Doc. Ing. Peter MRVA, CSc
Airport's Layout Types and Equipment	Ing. Peter KOŠČÁK, PhD.
Power Systems of Airports	Ing. Peter KOŠČÁK, PhD.
Airports and Aviation Ground Operation Support	Ing. Peter KOŠČÁK, PhD., Ing. Ján FERENC, PhD.
Ecology of Airports and Protection Against Dangerous Agents	Ing. Ján FERENC, PhD.
Airport Organization and Operation	Ing. Peter KOŠČÁK, PhD.
Airport Legislation	Ing. Peter KOŠČÁK, PhD., Ing. Ján FERENC, PhD.
Seminars of Airport Legislation	Ing. Peter KOŠČÁK, PhD., Ing. Ján FERENC, PhD.
Airport Security I	Ing. Ján KOLESÁR, PhD.
Airport Security II	Ing. Ján KOLESÁR, PhD.
Airport Operation Training I – V	Ing. Peter KOŠČÁK, PhD., Ing. Ján FERENC, PhD., Ing. Ján KOLESÁR, PhD.
Logistics of Airport Operation	Ing. Ján FERENC, PhD.
Aerodrome Maintenance I	Ing. Ján KOLESÁR, PhD.
Aerodrome Maintenance II	Ing. Ján KOLESÁR, PhD.
Design and Operation of Motor-Cars	Ing. Ján FERENC, PhD.
Motor Combustibles, Lubricants and Operational Fluids	Ing. Ján KOLESÁR, PhD.
Airfield Support and Maintenance Equipment	Ing. Peter KOŠČÁK, PhD.
Aircraft Ground Support Equipment	Ing. Peter KOŠČÁK, PhD., Ing. Ján FERENC, PhD.
Economics of Airport Operation	Ing. Ján FERENC, PhD.
Airport Ecology	Ing. Ján FERENC, PhD.
Protection of Airports	Ing. Ján KOLESÁR, PhD.
Logistics	Ing. Ján FERENC, PhD.
The Design of Aircraft, Aircraft Engines and Aircraft Systems	Ing. Jozef JUDIČÁK, PhD.

## Graduate Study (Ing.)

<b>Subject</b>	<b>Name of Lecturer</b>
Economics of Airport Operation	Ing. Ján FERENC, PhD.
Airport Logistics	Ing. Ján FERENC, PhD.
Organization of Airport Operation and Maintenance	Ing. Peter KOŠČÁK, PhD.
The Design and Strength Aircraft	Doc. Ing. Ján PIL'A, PhD.
Technical Cybernetics	Ing. Ladislav FÖZÖ, PhD.
Theory of Aircraft Engines	Ing. Marián HOCKO, PhD.
Regulation of Aircraft Engines	Ing. Ladislav FÖZÖ, PhD.
Aircraft Airframe Systems	Doc. Ing. Ján PIL'A, PhD.
The Design and strength of Aircraft Engines	Ing. Stanislav FÁBRY, PhD.
The Design and aircraft strength	Doc. Ing. Ján PIL'A, PhD.
The Aviation Regulations	Ing. Marián HOCKO, PhD.
Testing of Aircraft and Aircraft Engines	Ing. Stanislav FÁBRY, PhD.
Diagnostic Systems	Doc. Ing. Peter MRVA, PhD.
Reliability of Aircraft	Doc. Ing. Peter MRVA, PhD.
Management of Maintenance and Repair	Doc. Ing. Peter MRVA, PhD.
Ecology and Environment	Ing. Ján FERENC, PhD.
Year Project-Design of Aircraft	doc. Ing. Ján PIL'A, PhD.
Year Project-Aircraft Engines	Ing. Marián HOCKO, PhD.
Year Project-Maintenance Procedures	doc. Ing. Peter MRVA, PhD.
Year Project-Designing Aircraft	doc. Ing. Ján PIL'A, PhD.
	doc. Ing. Ján PIL'A, PhD.
Thesis Project	Ing. Stanislav FÁBRY, PhD. Ing. Marián HOCKO, PhD. doc. Ing. Peter MRVA, PhD.

## Postgraduate Study (PhD.)

<b>Subject</b>	<b>Name of Lecturer</b>
Subject Theoretical Foundation I	prof. Ing. Jozef POVAŽAN, CSc.
Subject Theoretical Foundation II	prof. Ing. Jozef POVAŽAN, CSc.
Subject Specialization I.	prof. Ing. Jozef POVAŽAN, CSc.
Subject Specialization II	prof. Ing. Jozef POVAŽAN, CSc.
Subject Specialization III	prof. Ing. Jozef POVAŽAN, CSc.
Dissertation Project I	prof. Ing. Jozef POVAŽAN, CSc.
Dissertation Project II	prof. Ing. Jozef POVAŽAN, CSc.
Dissertation Project III	prof. Ing. Jozef POVAŽAN, CSc.
Dissertation Project IV	prof. Ing. Jozef POVAŽAN, CSc.
Selected Topics in Mathematics	RNDr. Viera MISLIVCOVÁ, PhD.
Selected Chapters from Physics	doc. RNDr. Ladislav TOMČO, PhD.
Theory of Measurement	prof. Ing. Jozef POVAŽAN, CSc.
Metrology and Diagnostics	doc. Ing. Peter MRVA, CSc.
Scientific Work and Experiment	Prof. Ing. Tobiáš LAZÁR, DrSc.
Mathematics and Computer Simulation	prof. Ing. Jozef POVAŽAN, CSc.
Methods of Measurement of Selected variables	prof. Ing. Jozef POVAŽAN, CSc.
Aerodynamics and Flight Mechanics	Doc. Ing. Dušan NEŠTRÁK, CSc.
Diagnostic systems of Means of Transportation	Doc. Ing. Peter MRVA, CSc.
Selected Chapters of Construction Vehicles	prof. Ing. Jozef POVAŽAN, CSc.
Theory, Construction and Management of Aircraft Engines	prof. Ing. Jozef POVAŽAN, CSc.
Auxiliary Systems of Vehicles	prof. Ing. Jozef POVAŽAN, CSc.
Operation, Maintenance and Repair of Vehicles	doc. Ing. Peter MRVA, CSc.

## RESEARCH PROJECTS

Integration of Automatic Flight Control Algorithms with Control Algorithms of Aircraft Turbocompressor Engines (VEGA 1/1117/11)

*Period of the solution:* 2011 - 2013

*Responsible researcher:* Ing. Rudolf Andoga, PhD.

*Researchers:*

Ing. Jozef Judičák, PhD.

Ing. Ladislav Főző, PhD.

Ing. Ján Kabát, PhD.

Ing. Ján Kolesár, PhD.

Ing. Miroslav Laššák

Ing. Marek Češkovič

Ing. Miroslav Šmelko

Ing. Jozef Himič

Ing. Miroslav Spišák.

Ing. Ján Ferenc, PhD.

Ing. Peter Koščák, PhD.

Digital Control of Complex Systems with two Degrees of Freedom (VEGA 1/0298/12)

*Period of the solution:* 2012 - 2014

*Responsible researcher:* Dr.h.c. prof. Ing. Ladislav Madarász, PhD.

*Researchers:*

prof. Ing. František Adamčík, CSc.

Ing. Marian Bučko, CSc.

Ing. Rudolf Andoga, PhD.

Ing. Ladislav Főző, PhD.

prof. Ing. Jozef Považan, CSc.

prof. Ing. Tobiáš Lazar, DrSc.

Ing. Marián Hocko, PhD.

Ing. Ján Kabát, PhD.

Ing. Jozef Judičák, PhD.

Ing. Ján Kolesár, PhD.

Dr. Ing. Vratislav Hladký

doc. Ing. Ján Labun, PhD.

Progressive Methods of Education in the Area of Control and Modelling of Complex Systems

Object Oriented on Aircraft Turbo-Compressor Engines. (KEGA 018TUKE-4/2012)

*Period of the solution:* 2012 - 2014

*Responsible researcher:* Dr.h.c prof. Ing. Ladislav Madarász, PhD.

*Researchers:*

prof. Ing. Jozef Považan, CSc.

Ing. Rudolf Andoga, PhD.

Ing. Ladislav Főző, PhD

Ing. Marián Hocko, PhD.

prof. Ing. František Adamčík, CSc.

Ing. Jozef Judičák, PhD.

Ing. Ján Kabát, PhD.

Ing. Marián Bučko, CSc.

Marián Eperješi

Eduard Probala

Ing. Tomáš Karoľ

ESPOSA (Efficient Systems and Propulsion for Small Aircraft)

EU - FP7 Program: 4th call FP7 EU – Aeronautics, Level 2 project grant agreement No: 284859

*Period of the solution: 2011 – 2015*

*Responsible researcher: Ing. Zdeňek Palát - První brněnská strojírna Velká Bíteš*

*Researchers:*

*prof. Ing. Jozef Považan, CSc. - Head of Participating Organization No.36*

*Ing. Ladislav Főző, PhD.*

*Ing. Rudolf Andoga, PhD.*

*Ing. Jozef Judičák, PhD.*

*Ing. Peter Malatin*

## CO-OPERATION

Co-operation in the Slovak Republic

- *Faculty of Special Technology, Alexander Dubcek University of Trenčín*

- *Aeroport Košice*

- *Slovak Technical Museum-Aviation Museum Košice*

- *LOTN Trenčín*

- *Tomark s.r.o. Prešov*

- *ATE Poprad*

- *Stredná odborná škola letecko-technická Trenčín*

- *Fakulty of Operation and Economics of Transport and Communications, University of Žilina*

International Co-operation

- *University of West Bohemia in Pilzen, Faculty of Mechanical Engineering, Department of Power System Engineering*

- *Institute of air transport , Faculty of Engineering-Institute of transport , Technical University of Ostrava*

- *University of Defence in Brno, Faculty of Military Technology, Department of Aerospace and Rocket Technologies*

- *První brněnská strojírna Velká Bíteš, a.s.*

- *Unis, a.s. Brno*

- *Výskumný a zkušební letecký ústav, a.s.*

- *Department of Air Transport of the Transportation Faculty of the Czech TU in Prague*

Visitors to the Department

- *Károly Beneda, assistant lecturer, Budapest University of Technology and Economics Faculty of Transportation Engineering and Vehicle Engineering, Department of Aeronautics, Naval Architecture and Railway Vehicles*

- *Levente Kovács, PhD, habil Associate Professor, Vice Dean, Obuda University John von Neumann*

*Faculty of Informatics Applied Informatics Institute*

- *pplk. Ing. Jiří Pečinka, Ph.D., University of Defence in Brno, Faculty of Military Technology, Department of Aerospace and Rocket Technologies*

- *doc. Ing. Jiří Polanský, Ph.D., head of Department of Power System Engineering, Faculty of Mechanical Engineering, University of West Bohemia in Pilzen,*

- *Ing. Ploček Radek, Ing. Vlastimil Kupský, Testing laboratory-special tests and measurement*

*Aircraft Technique Division, První brněnská strojírna Velká Bíteš, a.s.*

### Visit of Staff Members to Foreign Institutions

- Ing. Marián Hocko, PhD. - University of West Bohemia in Pilzen, Faculty of Mechanical Engineering, Department of Power System Engineering, 25. – 29.11.2013
- prof. Ing. Jozef Považan, CSc., Ing. Ladislav Főző, PhD., Ing. Jozef Judičák, PhD. - První brněnská strojírna Velká Bíteš, a.s. – apríl 2013
- Ing. Peter Malatín - University of West Bohemia in Pilzen, Faculty of Mechanical Engineering, Department of Power System Engineering, 1.7. – 30.9.2013
- Bc. Miroslava Cúttová – Estonian Aviation Academy, Esti Lennuakadeemia, 1.9.2012 – 31.1.2013

### Membership in International Organization and Societies

- doc. Ing. Ján Pil'a, PhD., Politechnika Śląska, Wydział transportu

### Contracts

- ERASMUS - TEACHING PROGRAMME - Ing. Peter Koščák, PhD. - Czech Technical University in Prague, Faculty of Transportation Sciences, Department of Air Transport – November 2013
- ERASMUS \_ TEACHING PROGRAMME – Ing. Marián HOCKO, PhD. – University of West Bohemia. Plzeň, Faculty of Mechanical Engineering, Department of Power System Engineering – 25. – 29.11.2013
- ERASMUS - University of West Bohemia in Pilzen, Faculty of Mechanical Engineering, Department of Power System Engineering, Ing. Peter Malatín, 1.7. – 30.9.2013
- ERASMUS -Estonian Aviation Academy, Esti Lennuakadeemia, Bc. Miroslava Cúttová, 1.9.2012 – 31.1.2013

### OTHER ACTIVITIES

#### Project for Industry Companies

- Efficient Systems and Propulsion for Small Aircraft  
prof. Ing. Jozef Považan, CSc., Ing. Ladislav Főző, PhD., Ing. Rudolf Andoga, PhD., Ing. Jozef Judičák, PhD., Ing. Peter Malatín

### GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	60	46	1

### BACHELOR'S THESES

NAME OF STUDENT	NAME OF THESIS
Kitti Molnárová	Proposals of the Arrangement of a Regional Airport with Regular Public Air Transport
Lucia Dlugošová	The Use of Inert Gases in Prevention of Fires
Janka Bucová	Specific Aspects of Aircraft Fire Fighting
Peter Mihok	Means of Rescue and Fire Fighting Services at an Airport
Slavomíra Šoltisová	Interaction between the Integrated rescue service of SR and Airport Operator in Dealing with Airport Emergencies
Viktória Rudasová	Sources of Stand by Electrical Energy
Alexandra Peszekiová	Operational Efficiency of Airport Maintenance Equipment

Bibiána Hudáková	Civil Aviation Authority as a Professional Authority for Airport Operation
Frederika Chalaničová	The Impact of Human Factor in Airport Maintenance
Dorota Božíková	Provision of Technical Handling for Aircraft
Stanislava Ondová	Slot Coordination Airports
Marián Murín	Means for Embarking and Disembarking Passengers to and from Aircraft
Peter Popovič	Balancing Aircraft
Daniela Cimbaľáková	Documentation POL
Ivana Fečkanínová	Impact of the Construction of Airports in the Country of Optical pollution
Viktória Erbyová	Competitiveness of Airports
Michal Bella	Means of Chemical De-icing during Winter Airport Operation
Dagmara Capáková	Effect of Climatic Conditions on Mutual Influence of Cement-Concrete Panels of RWY
Miroslav Horák	Effect of Icing Phenomena on Air Operation
Ivan Pahut	Potentials of Using Alternative Fuels at Ground Operation of Airports
Michal Potočný	Methodology of Evaluating Bomb-Threat to Air Transportation
Patrik Svatko	Reliability Man in the Workspace Screening at Airports
Viktória Vargová	Diagnostics and Evaluation of the Airport Movement Area Status
Veronika Vargovčáková	Quality Management System at Airport Operation Processes
Veronika Verebová	Safety Management and Health Protection at Works by Airport Processes
Ingrid Kántorová	Quality Requirements for Daily Marking of Airports
Andrea Botková	Influence of Quality on Air Traffic Ground Support and Safety
Lucia Kónyová	Influence of Landscape Relief on Air Traffic Safety
Petra Jozefiaková	Fire Protection of an Airport
Diana Durová	Airport Operational Documentation with Scheduled Air Service
Martin Vencel'	Certification Process of an Airport with Scheduled Air Service
Simona Kaczová	Development of a Small Regional Airport
Stanislav Prachař	Co-Operation Between Airport and Airline Companies
Blanka Ryšáková	Commercial Activities of an Airport - Principles of Procuring Goods and Services
Katarína Dzurňáková	Airport Transport Linking Efficiency
Katarína Nagyová	Quality Requirements for the Airport Operation Meteorological Support
Helena Varechová	The Technical Protection Energy, Radar and Navigation Airport Equipment
Milan Varga	Transport Telematics and Air Transport
Ján Lazorik	The Impact of Adverse Weather Conditions to Airport Operations Safety
Mária Huťanská	Eastern Slovakia as a HUB of Logistics and Transport
Zuzana Frájová	The Use of Aviation Equipment in Extinguishing Spread Fires
Štefan Molnár	Utilizing of Helicopter for Aerial Works
Vladimír Dacej	Surface Air Components Oxidation
Lukáš Halas	Maintenance and Repair of the Chassis of a Small Airliner
Tomáš Gavlas	Reversing Thrust Turbofan Engines of Transport Aircraft
Tomáš Chovanec	Unconventional Technologies Finishes in Aerospace
Lukáš Lazík	Technology of Production of Blades for Aircraft Engines
Radovan Kovács	Determination of Permanent Deformation of a Small Transport Aircraft Airframe
Dalibor Kužma	3D Model of the Small Turbojet Engine MPM-20
Dominik Kireš	Modern Fuel Supply Systems of Jet Engines
Martina Nižníková	Methods for Removal of Crashed Plane from Runway
Peter Pangráč	Ecological Consequences of the Activities of Aircraft Engines
Zuzana Pecníková	The Ecological disposal of a Large Transport Aircraft
Lukáš Rebič	Maintenance and Repair of Aircraft rubber Tanks
Norbert Ríz	Design of a Speed Reducer for Piston Engine

Ing. Jaroslav Szabo	3D Model of Auxiliary Units of the MPM-20 Engine
Erika Szepesiová	Design of an Equipment for Measuring the Reaction Torque Electric Power
Rastislav Šatek	Design of an Equipment for Measuring the Reaction Torque Piston Engine
Štefan Talpaš	Maintenance and Repair of Hydraulic System of a Small Airliner
Miroslav Veselský	Aircraft Piston Engines Manufactured in Czechoslovakia and Slovak Republic from 1945 to Present

## MASTER'S THESES

NAME OF STUDENT	NAME OF THESIS
Bc. Simona Romanová	Prospective Methods and Ways Biologics of the Airport
Bc. Marcel Harňák	Marketing of Airports
Bc. Judita Tillová	Assess the Possibility of the Operation of Aircraft of Type B747 at Selected Airports
Bc. Dana Farkašovská	Training Program to Enhance the Resilience of Members of Rescue Fire Service Airports
Bc. Klaudia Bordášová	Proposal of Applications Airport-CDM System Operational Airports
Bc. Ján Piľa	Possibilities of Using the Airport Svidník
Bc. Zlata Jusufiová	Potential for Reducing Environmental Burdens Vodochody Airport
Bc. Miriamma Golisová	Draft Technical Handling B747 Aircraft at the Airport of Kosice
Bc. Petronela Mariňáková	General Aviation Accidents
Bc. Gabriela Harčáriková	Reliability Monitor Aircraft Airline
Bc. Tomáš Ivanko	Advantages and Disadvantages of Privatization and Leasing of Airports
Bc. Katarína Fabriciová	Care Workers Airports
Bc. Lucia Dedinská	Possibilities of Utilizationof Rain Water in the Operation of Aerodromes
Bc. Beáta Ercegová	Satisfaction Survey and Proposal of Measures to Improve Catering Services in Aviation
Bc. Dáša Jezná	Monitoring and Control of Movements through the Airport Operational Areas
Bc. Dagmara Kocaiová	Methods of Monitoring of Airport and Aircraft De-icing Materials
Bc. Ivan Koreň	Analysing the Systems-Based Approach to the Design of Construction of Airport Movement Areas
Bc. Marcel Lechman	System of Transportation of a Modern Civil Airport
Bc. Andrea Lederleitnerová	Methodology Disorders inventory and Assessment of Airport Pavement Surfaces
Bc. Viktória Nagyová	Potentials of Reducing Operational Costs in the Subsystem of Winter Airport Operation
Bc. Lukáš Petrík	Potentials P provide Non-Services at Airports in Slovakia
Bc. Peter Rošták	Evaluation of the Carrying Capacity of the Airport Movement Areas Applying the ACN/PCN Method
Bc. Lukáš Šuster	Aircraft Balancing
Bc. Štefan Kadúch	Landing Gear of Transport Aircraft in Accordance with ATA 32
Bc. Miroslav Bednářík	New Approach in the Design of the New Generation of Transport Aircraft
Bc. Ondrej Bednářák	Optimal Engine Control with two Degrees of Freedom
Bc. Miroslava Cútová	Draft Amendment MPM using Unconventional Technologies
Bc. Marek Čekovský	Conceptual Design Work for Teaching Maintenance Operation of a Small Airliner
Bc. Miroslav Čop	Using Methods of Thermo vision in Aeronautical Maintenance
Bc. Peter Fedor	The Proposal for Utilization of Waste Heat from the Engine of the Compressor Station
Bc. Michal Horváth	Gas Turbine Compressor Disc Natural Frequency Calculation
Bc. Martin Jurek	Design and Analysis of Engine Beds for the Use of Council Power

	Trains for Small Sports Plane Zlin Line 26
Bc. Maroš Komjaty	Mathematical Model of the MPM-20 Engine with Variable Geometry
Bc. Michal Krenželák	Design and Calculation of Hydraulic Power System for a Small Transport Aircraft with Take-off Weight to 2,000 kg
Bc. Radoslav Kertis	Design and Calculation of the Air Conditioning System for a Small Transport Aircraft with Take-off Weight to 2,000 kg
Bc. Marek Klimko	Design of Systems of a Small Turbo shaft Engine
Bc. Ondrej Litványi	Aircraft Gas Turbine Rotor Blades Vibration
Bc. Michal Maťaš	The Stand for the Electric Measurement of the Model Propeller Power unit Performance in Wind Tunnel
Bc. Vladimír Matvija	Gas Turbine Disc Stress Calculation
Bc. Tomáš Noga	Aircraft Gas Turbine Rotor Blades Strength
Bc. Daniel Okresa	Design and Calculation of Defrosting System for a Small Transport Aircraft with Take-off Weight to 2,000 kg
Bc. Katarína Ratkovská	Proposal for Fuel-control System for Small Turbo shaft Engine
Bc. Peter Tomáš	Aircraft Gas Turbine Vibration Signature Calculation Algorithm
Bc. Peter Žofčák	Wing Static Strength Test Method Proposal of Small recreational and Sport Airplane
Bc. Lukáš Rácz	Draft of Design Variants to the Basic Frame of an Ultra light helicopter
Bc. Peter Samsely	Design and Implementation of Modular Lattice Structure on the Basic Frame of an Unmanned Aerial Vehicle

## PhD. THESES

NAME OF STUDENT	NAME OF THESIS
Ing. Peter Korba	The Utilization of Visualization and Simulation in the Aircraft Structural Nodes Using CAx Systems

## PUBLICATIONS

### Books, textbooks

- Prevádzka letísk / Ján Ferenc ... [et al.] - 1. vyd. - Kosice : TU - 2013. - 348 s. [CD-ROM]. - ISBN 978-80-553-1377-1.  
[FERENC, Ján - KOŠČÁK, Peter - KOLESÁR, Ján - ENDRIZALOVÁ, Eva]
- Konštrukcia matematických modelov leteckých motorov s uvážením vplyvu vzdušnej vlhkosti / Jozef Považan - Kosice : TU - 2013. - 118 s.. - ISBN 978-80-553-1528-7.  
[POVAŽAN, Jozef]
- Gas Turbine Engines / Jozef Považan ... [et al.] - 1. vyd - Kosice : TU - 2013. - 373 s.. - ISBN 978-80-553-1256-9.  
[POVAŽAN, Jozef - HOCKO, Marián - FÁBRY, Stanislav - ADAMČÍK, František ml.]
- Helicopter Aerodynamics, Structures and Systems Vysokoškolská učebnica/ Ján Piľa ... [et al.] - 1. vyd. - Kosice : TU - 2013. 410 s. [CD-ROM]. - ISBN 978-80-553-1241-5.  
[PIĽA, Ján - NEŠTRÁK, Dušan - ADAMČÍK, František - LABUN, Ján - BRÉDA, Róbert - ANDOGA, Rudolf]
- Aircraft Aerodynamics, Structures and Systems Vysokoškolská učebnica/ Ján Piľa ... [et al.] - 1. vyd. - Kosice : TU - 2013. - 354 s.. - ISBN 978-80-553-1242-2.  
[PIĽA, Ján - POVAŽAN, Jozef - ADAMČÍK, František - NEŠTRÁK, Dušan - HOCKO, Marián - FÁBRY, Stanislav - HAJDUOVÁ, Zuzana]
- Výpočtové cvičenie z teórie leteckých motorov Približný výpočet tepelného obehu dvojprúdových leteckých turbokompressorových motorov/ Marián Hocko - 1. vyd - Kosice : TU, LF - 2013. - 169 s.. - ISBN 978-80-553-1391-7.  
[HOCKO, Marián]

- Diagnostika LTKM / Ján Kabát, Peter Mrva, Miroslava Cúttová - 1. vyd - Kosice : LF TU - 2013. - 108 s. - ISBN 978-80-553-1568-3.  
[KABÁT, Ján - MRVA, Peter - CÚTTOVÁ, Miroslava]

### Journals

- Methods for Securing of Reliability in Process / Naqibullah Daneshjo ... [et al.] - 2013. In: Acta Technica Corviniensis - Bulletin of Engineering. Vol. 6, no. 2 (2013), p. 145-148. - ISSN 2067-3809 Web page: <http://acta.fih.upt.ro/pdf/archive/ACTA-2013-2.pdf>...  
[DANESHJO, Naqibullah - TAHZIB, Barylai - STRATYINSKI, Cristian Dan - KOHLA, Andreas]
- Determination of Diagnostic Action Intervals for Interval Maintenance / Naqibullah Daneshjo ... [et al.] - 2013. In: Annals of faculty Engineering hunedoara - international journal of Engineering. Vol. 11, no. 2 (2013), p. 179-182. - ISSN 1584-2665 Web page: <http://annals.fih.upt.ro/ANNALS-2013-2.html>...  
[DANESHJO, Naqibullah - TAHZIB, Barylai - STRATYINSKI, Cristian Dan - DIETRICH, Christian]
- Návrh zkušebního zařízení pro zkoušení odlučovacích mříží zpracovaný do 3D CAD programem CATIA (I. část). / Naqibullah Daneshjo ... [et al.] - 2013. In: IT CAD. Roč. 23, č. 2 (2013), s. 42-45. - ISSN 1805-8418 [DANESHJO, Naqibullah - TAHZIB, Barylai - KOHLA, Andreas - DIETRICH, Christian]
- Návrh zkušebního zařízení pro zkoušení odlučovacích mříží zpracování do 3D podoby CAD programem CATIA (II. část) / Naqibullah Daneshjo ... [et al.] - 2013. In: it Cad. Vol. 23, no. 3 (2013), p. 32-34. - ISSN 1805-8418  
[DANESHJO, Naqibullah - TAHZIB, Barylai - KOHLA, Andreas - DIETRICH, Christian]
- How can a relevant failure arise? / Naqibullah Daneshjo ... [et al.] - 2013. In: Interdisciplinarity in Theory and Practice. No. 1 (2013), p. 1-7. - ISSN 2344-2409 Web page: <http://www.itpb.eu/>...  
[DANESHJO, Naqibullah - STRATYINSKI, Cristian Dan - KOHLA, Andreas - DIETRICH, Christian]
- Draft Technical Handling Type B747 Aircraft at the Airport Kosice / Ján Ferenc, Miriam Golisová - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479  
[FERENC, Ján - GOLISOVÁ, Miriam]
- Aircraft Design Software / Naqibullah Daneshjo, Andreas Kohla, Christian Dietrich - 2013. In: Transfer inovácií. Č. 26 (2013), s. 29-32. - ISSN 1337-7094 Web page: <http://www.sjf.tuke.sk/transferinovaci/>...  
[DANESHJO, Naqibullah - KOHLA, Andreas - DIETRICH, Christian]
- Flight Control Systems / Naqibullah Daneshjo ... [et al.] - 2013. In: Transfer inovácií. Č. 26 (2013), s. 33-38. - ISSN 1337-7094 Web page: <http://www.sjf.tuke.sk/transferinovaci/>...  
[DANESHJO, Naqibullah - STRATYINSKI, Cristian Dan - KOHLA, Andreas - DIETRICH, Christian]
- Komplexný výskum efektívnosti a inovácia technológie skúšok malého prúdového motora (2) / Ladislav Madarász ... [et al.] - 2013. In: ATP Journal. Roč. 20, č. 10 (2013), s. 58-61. - ISSN 1335-2237  
[MADARÁSZ, Ladislav - LAZAR, Tobiáš - ANDOGA, Rudolf - FŐZŐ, Ladislav - GAŠPAR, Vladimír]
- Airports and environmental impact assessment / Naqib Daneshjo, Lenka Zvijáková, Barylai Tahzib - 2013. In: Acta Avionica. Roč. 15, č. 26 (2013), s. 33-37. - ISSN 1335-9479 [DANESHJO, Naqibullah - ZVIJÁKOVÁ, Lenka - TAHZIB, Barylai]

- The Use of Aviation Equipment in Extinguishing Spread Fires / Zuzana Frájová, Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479 [FRÁJOVÁ, Zuzana - KOŠČÁK, Peter]
- Eastern Slovakia as a Hub of Logistics and Transportation / Huťanská Mária, Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 [MÁRIA, Huťanská - KOŠČÁK, Peter]
- Methods of Monitoring of Airport and Aircraft De-icing materials / Dagmara Kocaiová, Ján Kolesár - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479 [KOCAIOVÁ, Dagmara - KOLESÁR, Ján]
- Analysis of the Systematic Approach to desing of Airport Pavements construction / Ivan Koreň, Ján Kolesár - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 Web page:  
[http://web.tuke.sk/lf/acta\\_avionica/Specialized\\_articles.pdf...](http://web.tuke.sk/lf/acta_avionica/Specialized_articles.pdf...)  
[KOREŇ, Ivan - KOLESÁR, Ján]
- Fire Protection of an Airport / Petra Jozefiaková, Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 [JOZEFIAKOVÁ, Petra - KOŠČÁK, Peter]
- Modern Approach to Airport Pavement Management / Andrea Lederleitnerová, Ján Kolesár - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-3. - ISSN 1335-9479 [LEDERLEITNEROVÁ, Andrea - KOLESÁR, Ján]
- Development of a Small Regional Airport / Simona Kaczová, Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479 [KACZOVÁ, Simona - KOŠČÁK, Peter]
- Potentials of Reducing Operational Costs in the Subsystem of Winter Airport Operation / Viktória Nagyová, Ján Kolesár - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-6. - ISSN 1335-9479 Web page:  
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[NAGYOVÁ, Viktória - KOLESÁR, Ján]
- Quality Requirements for Daily Markings of Airports / Ingrid Kántorová, Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-6. - ISSN 1335-9479 [KÁNTOROVÁ, Ingrid - KOŠČÁK, Peter]
- Evaluation of the Carrying Capacit of the Airport Movement Areas Applying the ACNPCN Method / Peter Rošták, Ján Kolesár - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-3. - ISSN 1335-9479 [ROŠTÁK, Peter - KOLESÁR, Ján]
- Quality Requirements for the Airport Operation Meteorological Support / Katarína Nagyová, Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479 Web page: <http://web.tuke.sk/lf/index.php?name=68...>  
[NAGYOVÁ, Katarína - KOŠČÁK, Peter]
- Cooperation of Airport and Airlines / Stanislav Prachař, Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479 Web page:  
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- Transport Telematics and Air Transport / Milan Varga, Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 [VARGA, Milan - KOŠČÁK, Peter]
- Certification Process of Airport with Scheduled Air Service / Martin Vencel', Peter Koščák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 [VENCEL', Martin - KOŠČÁK, Peter]
- The Impact of Biofuels FAME Added to Gasoline and Petrol on Emissions of the Piston Engines / Marián Hocko, Miroslav Balčák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-10. - ISSN 1335-9479 [HOCKO, Marián - BALČÁK, Miroslav]

- Possibilities of utilization of rainwater in airport operations / Ján Ferenc, Lucia Dedinská - 2013. In: Acta Avionica. Č. 27 (2013), s. 1-5. - ISSN 1335-9479 [FERENC, Ján - DEDINSKÁ, Lucia]
- Satisfaction survey and draft measures for aviation catering services improvement / Ján Ferenc, Beata Ercegová - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-8. - ISSN 1335-9479 Web page: www: <http://web.tuke.sk/lf/index.php?name=68...> [FERENC, Ján - ERCEGOVÁ, Beata]
- Advantages and Disadvantages of Privatization and Airport Leasing / Ján Ferenc, Tomáš Ivanko . In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-7. - ISSN 1335-9479 [FERENC, Ján - IVANKO, Tomáš]
- Possibilities of Using the Airport Svidník / Ján Ferenc, Ján Pill'a - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-6. - ISSN 1335-9479 [FERENC, Ján - PIL'A, Ján]
- Prospective Biological Methods and Ways of the Airport / Simona Romanová, Ján Ferenc - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 [ROMANOVÁ, Simona - FERENC, Ján]
- Optimal Engine Control with Two Degrees of Freedom / Ondrej Bednarčák, Ladislav Főző - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 [BEDNARČÁK, Ondrej - FŐZŐ, Ladislav]
- Design and analysis of Engine Mount for the Use of Modern-design Engine in Small Sport Plane Zlin 26 series / Martin Jurek, Jozef Judičák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-6. - ISSN 1335-9479 [JUREK, Martin - JUDIČÁK, Jozef]
- Design and Calculation of the Air Conditioning System for a Small Transport Aircraft with a Take-off Weight of up to 2 000 kg / Radoslav Kertis, Jozef Judičák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479 [KERTIS, Radoslav - JUDIČÁK, Jozef]
- Design and Calculation of Hydraulic Power Small passenger aircraft to take-off weight 2000 kg. / Michal Krenželák, Jozef Judičák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 [KRENŽELÁK, Michal - JUDIČÁK, Jozef]
- Design and calculation of the deicing system for small passenger aircraft to take-off weight 2000 kg. / Daniel Okresa, Jozef Judičák - 2013. In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479 [OKRESA, Daniel - JUDIČÁK, Jozef]
- Komplexný výskum efektívnosti a inovácia technológie skúšok malého prúdového motora (3) / Ladislav Madarász ... [et al.] - 2013. In: ATP Journal. Č. 11 (2013), s. 58-61. - ISSN 1335-2237 [MADARÁSZ, Ladislav - LAZAR, Tobiáš - ANDOGA, Rudolf - FŐZŐ, Ladislav - JUDIČÁK, Jozef - GAŠPAR, Vladimír]
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### Other Publications

PUBLICATION TYPE Number	CONFERENCE PROCEEDINGS		OTHER 0
	Foreign 7	Home 23	

# DEPARTMENT OF AVIATION TECHNICAL STUDIES

## Contact

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## DEPARTMENT'S PROFILE

During the last 30 years of its existence the Department has become a recognized and respected partner of many academic and research institutions and companies. This prestigious post has been achieved mainly due to its excellent results in the scientific area and thanks to the young scientists' education. At the Department many challenging scientific tasks were solved and also complex technical projects were executed.

The high-quality research and development has consequently leaded to the high-class publication activities and to the superior pedagogic results in students' education and to the creation, maintenance and development of the material and technical basis of the Department.

## The Department History

The Department was arisen on the 1st September 1979 by constitution of the Department of Electrotechnics and Electronics at the Air Force Academy in Kosice. The former name was

used for twenty years for one of the most successful departments. In connection with the changes in the military education in 2000 the structure of the department was modified and the name was changed to the Department of Electrotechnics and Informatics. At the time the Department was a part of the Air Force Academy of gen. M. R. Štefánik. After the transition from the Academy to the Technical University of Kosice on the 1st September 2004 the structure of the Department was changed again and the current name - the Department of the Aviation Technical Studies came to be called.

### **Education-Related Activities**

In the educational area the Department nowadays provides teaching of fundamental, specialized and profile subjects for technical preparation of electrotechnical and engineering specializations of the Faculty of Aeronautics in all three university degrees. For aviation specialization the Department provides education of fundamental electrotechnical subject in compliance with international aviation legislation, more specifically in accordance with EASA Parts.

The Department teaches subjects in following study programs:

Bachelor study programme: Avionic systems

Bachelor study programme: Airports operation

Bachelor study programme: Aircrafts operation

Master study programme: Sensorics and avionic systems

Master study programme: Aircraft operation

Doctoral study programme: Aviation and industrial electronic systems

Graduates of the Department are successful entrepreneurs, protectants, constructors, technicians, programmers, teachers and scientific workers in the electrotechnical area, in aviation industry and other industrial branches.

### **Research and Development Activities**

- Research, development and application of sensors based on magnetic microwires:  
Magnetic microwires represent not only advancement in the "spintronics" as a successor of the current electronics, but also a sensitive part of modern sensors. At the Department research and development of microwire-based sensors of tensile stress, temperature and magnetic field has been performed. Contactless versions of sensors allowing microwire integration directly into the tested object structure (as for example fibreglass laminate or C-composite) have been researched and developed.

- Application vector magnetometry:

Original digital sensors of magnetic field in connection with intelligent signal processing have found wide application possibilities in specialized industrial HFT magnetometers and also in the laboratory vector magnetometers of VEMA series. The last version represents a four-channel system with advanced functions, measured signals visualisation and efficacious post-processing.

- Influence of new ways of sintered materials modification (PVD/CVD, DLC and laser types of films) on their tribological properties:

The progress in the automotive industry leads to the increased use of constructional components manufactured by the powder metallurgy. These components (for example gear wheels) characteristics are influenced by contact fatigue and abrasive deterioration. Applications of surface modifications improve their resistibility and increase their lifetime significantly. The replacement of the composite materials also means unneigligible economic savings

- Basis for research, development, construction, testing and application of unmanned aerial vehicles:

One of the future key technologies opening new innovative application possibilities are small unmanned aerial vehicles. Assumption of the perceptively wide exploitation of this technology lies in the spatial, material and knowledge basis allowing research, development, testing, teaching and application of unmanned aerial vehicles. Development of this base with the intention of multi-rotor unmanned aerial vehicles represents a long-term perspective intention of the Department.

## **STAFF**

Professors:	prof. Ing. Josef BLAŽEK, CSc. prof. Ing. Dušan RODZINÁK, CSc. doc. Ing. Jozef HUDÁK, CSc.
Associate Professors:	doc. Ing. Václav MOUCHA, CSc. doc. Ing. Dušan PRASLICKA, PhD. doc. Ing. Rudolf ZAHRADNÍČEK, CSc.
Assistant Professors:	Ing. Romana DOBÁKOVÁ, PhD. Ing. František KMEC, PhD. Ing. Ivan MIKITA, PhD. Ing. Karol SEMRÁD, PhD.
Senior Scientists:	Ing. Katarína DRAGANOVÁ, PhD. Ing. Pavol LIPOVSKÝ, PhD.
Technical Staff:	Ing. Mária JOZEKOVÁ
PhD. Students:	Ing. Jozef ČERŇAN Ing. Miroslav LAŠŠÁK Ing. Miroslav ŠMELKO Ing. Viktor KÁN Ing. Ján BAJÚS Ing. Norbert FLACHBART

## **LABORATORIES, SPECIALIZED FACILITY**

### Laboratory of sensorics (L21)

Workstation: Sensors based on magnetic microwires

The workstation is equipped with developed contactless sensors for state and tensile stress monitoring of so called "smart" materials (objects). In the scientific area in the laboratory fundamental research of sensors of low magnetic fields has been performed, relaxation magnetometers have been designed and constructed, methods for metrology of vector sensors of physical fields have been developed and magnetometric methodologies for metal detection, archaeology and ecology have been tested and developed.

### Laboratory of applied magnetometry (L21)

Workstation: Vector magnetometry

In the laboratory industrial and laboratory systems with original sensors, measurements methods, intelligent signal processing and visualisation have been developed.

### Laboratory of diagnostics (L15)

Workstation: Testing of contact fatigue resistance of materials

The workstation equipped with AXMAT and R-MAT devices enabling contact fatigue testing in axial and radial direction of materials for aircraft engines as well as for other types of technical devices, for example for automotive or industrial devices.

**Testing hall for unmanned aerial vehicles (024)**

Workstation: Testing of unmanned aerial vehicles' sensorics

The workstation is equipped with devices used for MEMS accelerometers, gyroscopes and magnetometers testing.

**TEACHING****Bachelor Study Programme (Bc.)**

<b>Subject</b>	<b>Name of Lecturer</b>
Technical Documentation and Constructive Geometry	Doc. Ing. Rudolf Zahradníček, CSc. Ing. Jozef Čerňan
Technical Mechanics	Doc. Ing. Rudolf Zahradníček, CSc.
Metallic and Non-Metallic Aviation Materials	Ing. Romana Dobáková, PhD.
Seminars from Metallic and Non-Metallic Aviation Materials	Ing. Romana Dobáková, PhD.
Technical Documentation and Legislation	Ing. Ivan Mikita, PhD.
Materials, Technologies and Components	Ing. Romana Dobáková, PhD. Doc. Ing. Rudolf Zahradníček, CSc. Ing. František Kmec, PhD.
Mechanisms and Aircraft Gadgetries	Doc. Ing. Rudolf Zahradníček, CSc.
Computer-Aided Design II	Ing. Karol Semrád, PhD.
Structural Mechanics of Aircraft Structures	Ing. Karol Semrád, PhD.
Fundamentals of Technical Mechanics, Elasticity and Strength	Ing. Karol Semrád, PhD.
Airport Power Systems	Ing. Ivan Mikita, PhD.
Materials and Manufacturing Technologies	Ing. Romana Dobáková, PhD.
Signals and Systems	Doc. Ing. Dušan Praslička , PhD. Ing. Miroslav Šmelko
Electrical Measurements	Ing. Ivan Mikita, PhD.
Fundamentals of Electronics	Doc. Ing. Václav Moucha, CSc.
Modelling and Simulations	Ing. Pavol Lipovský, PhD. Ing. Miroslav Šmelko
Fundamentals of Electrotechnics	Ing. Ivan Mikita, PhD. Doc. Ing. Jozef Hudák, CSc.
Aviation Technologies	Ing. Romana Dobáková, PhD. Ing. Jozef Čerňan
Elasticity and Strength	Doc. Ing. Rudolf Zahradníček, CSc.
Computer-Aided Design I	Ing. Karol Semrád, PhD.
Seminars from Aviation Technologies	Ing. Romana Dobáková, PhD.
Fundamentals of Aviation Cybernetics	Prof. Ing. Josef Blažek, CSc. Ing. Miroslav Laššák
Pulse and Digital Technology	Doc. Ing. Václav Moucha, CSc.
Fundamentals of Aviation Electrotechnics and Electronics	Ing. Ivan Mikita, PhD.
Fundamentals of Mechanisms and Aircraft Gadgetries Theory	Doc. Ing. Rudolf Zahradníček, CSc.
Computer-Aided Design	Ing. Karol Semrád, PhD.

**Master Study Programme (Ing.)**

<b>Subject</b>	<b>Name of Lecturer</b>
Analysis of Signals and Systems	Doc. Ing. Dušan Praslička , PhD. Ing. Miroslav Šmelko
Fundamental Characteristics of Sensors	Doc. Ing. Jozef Hudák, CSc.

	Ing. Pavol Lipovský, PhD.
Computer-Aided Methods of Structure Design	Ing. Karol Semrád, PhD. Ing. Peter Gašparovič, PhD. Ing. Jozef Čerňan
Microsystems and Nanotechnologies	Ing. František Kmec, PhD.
Sensors of Physical Quantities	Prof. Ing. Josef Blažek, CSc. Ing. Miroslav Laššák Doc. Ing. Dušan Praslička , PhD. Ing. František Kmec, PhD.
Application of Computer-Aided Engineering Methods in Aviation	Ing. Karol Semrád, PhD.
Digitalization and Signal Processing	Doc. Ing. Václav Moucha, CSc. Doc. Ing. Dušan Praslička , PhD.
Data Acquisition and Processing Systems	Ing. František Kmec, PhD. Doc. Ing. Jozef Hudák, CSc.
Metrology of Electromagnetic Quantities	Doc. Ing. Dušan Praslička , PhD. Ing. Miroslav Šmelko
Electrotechnologies	Doc. Ing. Václav Moucha, CSc.
Sensorics of Aviation and Transportation Systems	Doc. Ing. Václav Moucha, CSc.
Sensorics of Safety and Security Systems	Doc. Ing. Václav Moucha, CSc.
Semester Project I	Doc. Ing. Jozef Hudák, CSc. Prof. Ing. Josef Blažek, CSc. Doc. Ing. Václav Moucha, CSc. Doc. Ing. Dušan Praslička , PhD. Ing. Ivan Mikita, PhD. Ing. František Kmec, PhD.

### Doctoral Study programme (PhD.)

Subject	Name of Lecturer
Dissertation Thesis	Prof. Ing. Josef Blažek, CSc.
Individual and Team Research Work	Prof. Ing. Josef Blažek, CSc.
Signals and Systems Analysis	Prof. Ing. Josef Blažek, CSc.
Systems for Data Acquisition, Processing, Visualisation and Recording	Doc. Ing. Jozef Hudák, CSc.
Microsystems and Nanotechnologies	Doc. Ing. Jozef Hudák, CSc.
Sensorics	Doc. Ing. Jozef Hudák, CSc.
Digital Signal Processing	Doc. Ing. Václav Moucha, CSc.
Electronics of Safety and Security Systems	Doc. Ing. Jozef Hudák, CSc.

### RESEARCH PROJECTS

Project identifier: APVV-0266-10

Project name: SEMAMID – Sensors Based on Magnetic Microwires

Project duration: 05/2011 - 10/2014

Project scope: The SEMAMID project is focused on applied research and development of modern magnetic sensors based on magnetic microwires for selected industrial application, such for examples conveyor belt diagnostic systems or monitoring of material structures – as for example missile, aircraft, reservoir structures made from composites.

Chef researcher: Prof. Ing. Josef Blažek, CSc.

Project identifier: VEGA 1/0286/13

Project name:	Contact-less Microsensors of Internal Mechanical Stresses in Composite Materials
Project duration:	01/2013 - 12/2015
Project scope:	Carbon and glass composite materials - laminates are nowadays one of the basic construction materials. Their wide enhancement by pipes, pressure tanks, ship fuselages and airframes or missiles construction results into the need to sense internal mechanical stresses induced by strain, ageing or in-situ by their production. The goal of the project is to design and electronically realize miniature contact-less sensors - tensometers based on the amorphous or nanocrystalline magnetic microwires, which thanks to their dimensions can be embedded between the layers of composite materials. Magnetic microwires are form the dimensions, fiber strucre and glass coat point of view almost identical with the own compiste fiber, which results into the minimum probability of parasitic internal defects creation.
Chef researcher:	Doc.Ing. Dušan Praslička, PhD.
Project identifier:	KEGA 028TUKE-4/2013
Project name:	Integrated Study Programme "Unmanned Aerial Systems"
Project duration:	01/2013 - 12/2015
Project scope:	Small unmanned aerial vehicles open a wide range of innovative applications. Nowadays they are considered to be a key future technology. Their construction is based on modern technologies using "rapid prototyping" and their wide applicability is based on the implementation of modern, dynamically developing information and communication technologies "Internet of things" with the goal to develop knowledge and skills of students of the Faculty of Aeronautics. The project is focused on the integration of theoretical and practical knowledge into the educational process with the emphasis placed on the practical utilization of modern construction technologies and applications of unmanned aerial vehicles. The project expect of the conception preparation and study documentation also includes a web page creation, e-course creation, academic textbook publication, existing laboratories for practical preparation of students reconstruction and equipment.
Chef researcher:	Doc. Ing. Václav Moucha, CSc.
Project identifier:	OPV-2011/1.2/03-SORO - ASFEU
Project name:	Package 04 Activity 1.1. Preparation of study materials and realization of methods in the study programmes for increasing of their attractiveness MODULE M3 M4 M6
Project duration:	09/2013 - 06/2015
Chef researcher:	Doc. Ing. Václav Moucha, CSc.
Project identifier:	OPV-2011/1.2/03-SORO - ASFEU
Project name:	Package 04 Activity 1.2. Innovation of Study Programmes for the Labour Market and Creation of Study Programmes in the World Language Unmanned Aerial Systems Technology Study programme
Chef researcher:	Doc. Ing. Jozef Hudák, CSc.
Project identifier:	OPV-2011/1.2/03-SORO - ASFEU
Project name:	Package 04 Activity 3.1. Programme of Education and Increasing Number of PhD. Students at TUKE PhD. Students
Project duration:	09/2013 - 06/2015
Chef researcher:	Doc. Ing. Jozef Hudák, CSc.

Project identifier: ITMS project code: 26220220064

Project name: VUKONZE Centre – Centre for Research of the Effectiveness of Combined Systems of Renewable Energy Sources Integration

Project duration: 03/2010 - 04/2014

Project scope: Research of renewable energy sources and their systems. Task of Faculty of Aeronautics - measurement of developed magnetic materials.

Priority axis No.2: Activity 2.3. Intelligent control of manufacturing and energy consumption from renewable energy sources.

Specific goal name: Development of effective integrated multi-valence renewable energy systems according to the consumer's needs and requirements

Goal of the activity: Design and realization of optimal cooperation of combined energy sources with appliances.

Chef researcher: Prof. Ing. Josef Blažek, CSc.

## CO-PERATION

### Co-operation in Slovak Republic

- University of Pavol Jozef Šafárik in Košice, Faculty of Science, Institute of Physics
- Slovak Academy of Sciences, Košice, Institute of Experimental Physics
- Slovak Academy of Sciences, Košice, Institute of Materials Research
- Slovak Academy of Sciences, Košice, Institute of Parasitology
- Armed Forces Academy of General Milan Rastislav Štefánik, Liptovský Mikuláš
- Department of Energy Technology, Faculty of Mechanical Engineering University of Žilina
- Department Air Transportation, Faculty of Operation and Economics of Transportation and Connections University of Zilina
- Slovak Academy of Sciences, Institute of Geotechnics, Košice
- STATON Ltd. Engineering Company, Turany in Žilina
- FIRST WELDING, a.s., R & D and production, certification - consulting company, BA
- TOMARK s. r. o., Prešov
- PROCONT s. r. o., Prešov
- VUKOV EXTRA, a.s., Prešov
- TRUMPF Slovakia, s. r. o., Košice
- BÖHLER – UDDEHOLM SLOVAKIA, s.r.o., Martin

### International Co-operation

- Basque Country University, UPV/EHU. Group of Magnetism, San Sebastian, Spain
- Czech Technical University in Prague, Faculty of Electrical Engineering, Department of Measurement
- Třinecké železárny, Třinec, Czech Republic
- Severočeské doly a.s., Chomutov, Czech Republic
- MBDA Italia S.p.A., Italy
- TESEO S.p.A., Italy
- AVIOSPACE S.r.l., Italy
- UNIVERSITÀ DI PISA, Italy
- BAYERN-CHEMIE, Germany
- MAHYTECH, France
- ARDORAN OU, Estonia
- METROSELECT Tallinn, Estonia
- Elec (Electronics Design), Estonia
- ALGOSYSTEMS, Greece
- TSI (Telecommunications Systems), Greece
- Institute of Aeronautic, Faculty of Mechanical Ingeneering, Technical University in Brno
- Department of Aeronautic and Rocket Technologies, Faculty of Military Technology Brno

- Department of Energy Engineering, Faculty of Engineering, University of West Czech, Plzen

#### Membership in Slovak Organizations and Societies

- SMAGS- ZSVTS – Slovak Magnetic Society:

Doc. Ing. Dušan Praslička, PhD. - secretary

Prof. Ing. Josef Blažek CSc., Doc. Ing. Jozef Hudák, CSc., Ing. Ivan Mikita, PhD., Ing. Pavol Lipovský, PhD., Ing. Miroslav Šmelko, Ing. Miroslav Laššák - members

- Workgroup of SR Accreditation Commission

Doc. Ing. Jozef Hudák, CSc. – member of the SR accreditation commission workgroup - OV22

### OTHER ACTIVITIES

#### Conferences, Seminars, workshops

- MOSATT 2013 – Modern Safety Technologies in Transportation 2013, International Scientific Conference , 24<sup>th</sup> – 26<sup>th</sup> September 2013, Kosice, Zlatá Idka
- SaM 2013 – Sensorics and Magnetometry, Scientific Conference with International Participation, 5<sup>th</sup> December 2013, Kosice, Faculty of Aeronautics

#### Project for Industry Companies

Application of Sensors Development and Network Communication of Sensors for Ferromagnetic Objects Detection on Conveyor Belts Realized by the Spin-off EDIS vvd. Company

- realized for the Slovácke strojírny, a.s. Uherský Brod, Czech Republic

Researchers: Doc. Ing. Dušan Praslička, PhD., Ing. Ivan Mikita, PhD., Prof. Ing. Josef Blažek, CSc.

- realized for the Slovácke strojírny, a.s. Uherský Brod, Czech Republic

Researchers: Doc. Ing. Dušan Praslička, PhD., Ing. Ivan Mikita, PhD., Prof. Ing. Josef Blažek, CSc.

- realized for the Bohemia MÜLLER, s.r.o. Litvínov - Janov, Czech Republic

Researchers: Doc. Ing. Dušan Praslička, PhD., Ing. Ivan Mikita, PhD., Prof. Ing. Josef Blažek, CSc.

#### Awards

- Ing. Viktor KÁN – internal PhD. student – 2<sup>nd</sup> place. Thesis: Optimization of Ferroprobes for Relax-type Magnetometers. International Contest of the price of Štefan Jedlík organized by SMAGS- ZSVTS

- Tomáš KLIMENT – internal master's student – 2<sup>nd</sup> place. Thesis: Neural Networks in Sensorics.ŠVOČ Competition in the academic year 2012/2013.

### GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	5	21	0

### BACHELOR'S THESES

NAME OF STUDENT	NAME OF THESIS
Kliment Tomáš	Neural networks in Sensor Technology
Ríz Norbert	Design of a Speed Reducer for Piston Engine
Szepesiová Erika	Design of an Equipment for Measuring the Reaction Torque Electric Power

Šatek Rastislav	Design of an Equipment for Measuring the Reaction Torque Piston Engine
Štec Pavol	Fatigue and its Impact on Aircraft Operation Safety

**MASTER'S THESES**

NAME OF STUDENT	NAME OF THESIS
Bajús Ján	System of UAV Autonomous Return
Bogačevičová Simona	Aircraft Meteorological Observations
Brutovský Tomáš	Satellite Observations in Meteorology
Cvoreňová Lucia	Analysis of Available Unmanned Aerial Vehicles on World Market
Dunajová Lenka	Sensorics of Modern Land Transport Systems
Džugan Martin	Mobile Robotic Platform Control Using Optoelectronic Sensors
Furiková Veronika	Checking and Security Systems of Air Transportation and Airports and Other Important Structures
Jánošík Michal	Application Possibilities of MEMS Accelerometers and Gyroscopes for Position Stabilization of Helicopter Model
Jurková Miroslava	History and Perspectives of Unmanned Aerial Vehicles Utilization
Kakalejčíková Gabriela	Influence of the Material Selection on the Life Cycle and Aircraft Economy operation
Kán Viktor	Optimization of Ferroprobes for Relax-Type Magnetometers
Marcinko Lukáš	Life-Cycle Comparability of the Selected Aircraft Components in Dependence on Chosen Material
Mruškovičová Lucia	Analysis of Small Solar Powerplant Placement Possibilities
Palguta Michal	Radar Observations in Meteorology
Poloha Viktor	Environmental Production Views of the Selected Plastic Materials Used in Aircraft Industry
Rácz Lukáš	Draft of Design Variants to the Basic Frame of an Ultralight Helicopter
Samsely Peter	Design and Implementation of a Modular Lattice Structure on the Basic Frame of an Unmanned Aerial Vehicle
Širilla Pavol	Use of Motorized Stepper for Accurate Positioning
Stronček Marek	Automatic Test Bed for Arduino Platform
Vašková Mária	Technical Support of Air Rescue and Search Services

**PUBLICATIONS****Books, textbooks**

ACB – Academic Textbooks Published by Domestic Publishers (1)

- ACB001 [141752] Základy navrhovania konštrukcií technických, technologických a energetických zariadení / Ján Burák, Karol Semrád - 1. vyd - Kosice : elfa - 2013. - 350 s.. - ISBN 978-80-8086-223-7.  
[BURÁK, Ján - SEMRÁD, Karol]

**Journals**

ADC – Scientific Articles in Foreign Current Contents Journals (2)

- ADC001 [128051] Stress dependence of the switching field in glass-coated microwires with positive magnetostriction / R. Sabol ... [et al.] - 2013.In: Journal of Magnetism and Magnetic Materials. Vol. 325 (2013), p. 141-143. - ISSN 0304-8853  
[SABOL, Rudolf - VARGA, R. - HUDÁK, Jozef - BLAŽEK, Josef - PRASLIČKA, Dušan - VOJTANÍK, P. - BADINI, Giovanni - VAZQUEZ, Manuel]
- ADC002 [142859] Possibilities of measuring stress and health monitoring in materials using contact-less sensor based on magnetic microwires / D. Praslička ... [et al.] -

2013.In: IEEE Transactions on Magnetics. Vol. 49, no. 1 (2013), p. 128-131. - ISSN 0018-9464

[PRASLIČKA, Dušan - BLAŽEK, Josef - ŠMELKO, Miroslav - HUDÁK, Jozef - ČVERHA, Andrej - MIKITA, Ivan - VARGA, Rastislav - ZHUKOV, A.]

#### ADE - Scientific Articles in Foreign Journals (1)

- ADE001 [134896] Fatigue and Buckling Strength Analysis of the Wing Hinge in the Simulation Environment / Karol Semrád - 2013.In: Journal of Mechanics Engineering and Automation. Vol. 3, no. 4 (2013), p. 247-250. - ISSN 2159-5275  
[SEMRÁD, Karol]

#### ADF - Scientific Articles in Domestic Journals (8)

- ADF001 [133105] Aplikácia kompozitov s kovovou matricou / Romana Dobáková, Peter Kisely - 2013.In: Strojárstvo. Roč. 17, č. 4 (2013), s. 94-95. - ISSN 1335-2938  
[DOBÁKOVÁ, Romana - KISELY, Peter]
- ADF002 [136832] Životný cyklus vybraných plastov používaných v leteckom priemysle / Romana Dobáková, Peter Kisely - 2013.In: Strojárstvo. Roč. 17, č. 9 (2013), s. 104-105. - ISSN 13352938  
[DOBÁKOVÁ, Romana - KISELY, Peter]
- ADF003 [137363] Influencing the surface properties of sintered materials / Jozef Čerňan, Rudolf Zahradníček, Karol Semrád - 2013.In: Acta Avionica. Roč. 15, č. 26 (2013), s. 6-10. - ISSN 1335-9479  
[ČERNAN, Jozef - ZAHRADNÍČEK, Rudolf - SEMRÁD, Karol]
- ADF004 [142203] Effect of TiCN coating on tribological properties of Astaloy CrL sintered steel / Dušan Rodziňák, Jozef Čerňan, Pavol Hvízdoš - 2013.In: Journal of Manufacturing and Industrial Engineering. Roč. 12, č. 3-4 (2013), s. 20-24. - ISSN 1335-7972  
[RODZIŇÁK, Dušan - ČERŇAN, Jozef - HVÍZDOŠ, Pavol]
- ADF005 [142508] Draft of design variants to the basic frame of an ultralight helicopter / Karol Semrád, Lukáš Rácz - 2013.In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 Web page: [http://web.tuke.sk/lf/acta\\_avionica/Specialized\\_articles.pdf](http://web.tuke.sk/lf/acta_avionica/Specialized_articles.pdf).  
[SEMRÁD, Karol - RÁCZ, Lukáš]
- ADF006 [142510] Design and implementation of a modular lattice structure of the basic frame of an unmanned aerial vehicle / Peter Samsely, Karol Semrád, Jozef Hudák - 2013.In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479 Web page: [http://web.tuke.sk/lf/acta\\_avionica/Specialized\\_articles.pdf](http://web.tuke.sk/lf/acta_avionica/Specialized_articles.pdf).  
[SAMSELY, Peter - SEMRÁD, Karol - HUDÁK, Jozef]
- ADF007 [142601] Optimization of Feroprobe for Relax-type Magnetometers / Viktor Kán, Dušan Praslička - 2013.In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479 Web page: <http://web.tuke.sk/lf/index.php?name=44>.  
[KÁN, Viktor - PRASLIČKA, Dušan]
- ADF008 [144795] Contact fatigue resistance of sintered materials followed by laser hardening / J. Čerňan ... [et al.] - 2013.In: Powder Metallurgy Progress. Roč. 13, č. 2 (2013), s. 63-70. - ISSN 1339-4533 Web page: [http://www.imr.saske.sk/pmp/issue/2-2013/PMP\\_Vol13\\_No2\\_p\\_063-070.pdf](http://www.imr.saske.sk/pmp/issue/2-2013/PMP_Vol13_No2_p_063-070.pdf).  
[ČERŇAN, Jozef - RODZIŇÁK, Dušan - SEMRÁD, Karol - BRIANČIN, Jaroslav]

#### ADN – Scientific Articles in Domestic Journals registered in Web of Science or SCOPUS databases (1)

- ADN001 [142241] Effect of laser hardening on the properties of PM steels / Dušan Rodziňák, Jozef Čerňan, Rudolf Zahradníček - 2013.In: Acta Metallurgica

Slovaca.Roč. 19, č. 4 (2013), s. 282 -291. - ISSN 1335-1532 Web page:  
<http://www.qip-journal.eu/index.php/ams/about>.  
 [RODZIŇÁK, Dušan - ČERŇAN, Jozef - ZAHRADNÍČEK, Rudolf]

#### BDF – Specialized Articles in Domestic Journals (5)

- BDF001 [142606] Radar observations in meteorology / Michal Palguta, Katarína Draganová - 2013.In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-6. - ISSN 1335-9479 [PALGUTA, Michal - DRAGANOVÁ, Katarína]
- BDF002 [142612] Monitoring of traffic situation on highway D1 by unmanned aerial vehicles and its financial analysis / Lucia Cvoreňová, František Kmec - 2013.In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-3. - ISSN 1335-9479 [CVOREŇOVÁ, Lucia - KMEC, František]
- BDF003 [142848] Aircraft Meteorological Observations / Simona Bogačevičová, Katarína Draganová - 2013.In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-8. - ISSN 1335-9479 [BOGAČEVIČOVÁ, Simona - DRAGANOVÁ, Katarína]
- BDF004 [142850] Satellite Observations in Meteorology / Tomáš Brutovský, Katarína Draganová - 2013.In: Acta Avionica. Roč. 15, č. 27 (2013), s. 1-6. - ISSN 1335-9479 [BRUTOVSKÝ, Tomáš - DRAGANOVÁ, Katarína]
- BDF005 [143819] Modelling of tracking system using six state Kalman filter / Tomáš Vaispacher, Róbert Bréda, Pavol Lipovský - 2013.In: Acta Avionica. Roč. 15, č. 28 (2013), s. 90-93. - ISSN 1335-9479 [VAISPACHER, Tomáš - BRÉDA, Róbert - LIPOVSKÝ, Pavol]

#### Other Publications

PUBLICATION TYPE Number	CONFERENCE PROCEEDINGS		OTHER
	Foreign	Home	
	6	15	

#### AFC - Published Articles on Foreign Scientific Conferences (3)

- AFC001 [134301] Microwire-based sensors and their utilization possibilities in small unmanned aerial vehicles development and operation / Katarína Draganová, František Kmec, Pavol Lipovský - 2013.In: ICMT 2013 : international Conference on Military Technologies : May 22 - 23, 2013, Brno, Czech Republic. - Brno : University of Defence, 2013 P. 939-944. - ISBN 978-80-7231-918-3 [DRAGANOVÁ, Katarína - KMEC, František - LIPOVSKÝ, Pavol]
- AFC002 [134302] Temperature dependence testing of inertial sensors / Pavol Lipovský ... [et al.] - 2013.In: ICMT 2013 : international Conference on Military Technologies : May 22 - 23, 2013, Brno, Czech Republic. - Brno : University of Defence, 2013 P. 965-971. - ISBN 978-80-7231-918-3 [LIPOVSKÝ, Pavol - LAŠŠÁK, Miroslav - DRAGANOVÁ, Katarína - BLAŽEK, Josef - HUDÁK, Jozef - MOUCHA, Václav]
- AFC003 [134303] Miniature strain gauge sensors for embedding in composite materials / Miroslav Smelko, Dusan Praslicka, Josef Blazek - 2013.In: ICMT 2013 : international Conference on Military Technologies : May 22 - 23, 2013, Brno, Czech Republic. - Brno : University of Defence, 2013 P. 1521-1525. - ISBN 978-80-7231-918-3 [ŠMELKO, Miroslav - PRASLICKA, Dušan - BLAŽEK, Josef]

#### BEE - Specialized Articles in Foreign Unreviewed Proceedings (3)

- BEE001 [135177] Non-destructive method of composite materials diagnostics using microwire-based sensors / K. Draganová ... [et al.] - 2013.In: Kompozicionnye

materialy v promyšlennosti : materialy 33. ežegodnoj meždunarodnoj konferencii : 27-31 maja 2013g., Jalta, Gurzuf, Krym. - Kijev : Ukrainskij informacionnyj centr, 2013 P. 8-12.

[DRAGANOVÁ, Katarína - ŠMELKO, Miroslav - BLAŽEK, Josef - PRASLIČKA, Dušan - MIKITA, Ivan - HUDÁK, Jozef - VARGA, Rastislav]

- BEE002 [135178] Contactless measuring of tensile stress in composite materials / Miroslav Šmelko ... [et al.] - 2013.In: Kompozicionnye materialy v promyšlennosti : materialy 33. ežezodnoj. - Kijev : Ukrainskij informacionnyj centr, 2013 P. 5-8.  
[ŠMELKO, Miroslav - PRASLIČKA, Dušan - BLAŽEK, Josef - MIKITA, Ivan]
- BEE003 [142669] Magnetické mikrodrôty ako náhrada odporových tenzometrov / Miroslav Šmelko ... [et al.] - 2013.In: Defektoskopie 2013 : 43. mezinárodní konference : sborník příspěvků : 5. - 7. listopadu 2013, Olomouc. - Olomouc : VUT, 2013 P. 165-172. - ISBN 978-80-214-4820-9  
[ŠMELKO, Miroslav - PRASLIČKA, Dušan - FLACHBART, Norbert - BLAŽEK, Josef]

#### AFD - Published Articles on Domestic Scientific Conferences (15)

- AFD001 [131363] Emergency Procedures for Unmanned Aerial Vehicles / Katarína Draganová, František Kmec, Václav Moucha - 2013.In: Bezpečné Slovensko a Európska únia : zborník príspevkov z 6. medzinárodnej vedeckej konferencie : 15. - 16. november 2012, Košice. - Košice : VŠBM, 2012 S. 82-87. - ISBN 978-80-89282-82-1  
[DRAGANOVÁ, Katarína - KMEC, František - MOUCHA, Václav]
- AFD002 [134291] History and Perspectives of Unmanned Aerial Vehicles Utilization / Miroslava Jurková, Katarína Draganová - 2013.In: Aeronautika 2013 : Medzinárodná vedecká konferencia : 25. - 26. apríla 2013, Herľany. - Košice : LF TU, 2013 S. 85-90. - ISBN 978-80-553-1416-7  
[JURKOVÁ, Miroslava - DRAGANOVÁ, Katarína]
- AFD003 [134292] Možnosti využitia bezpilotných prostriedkov pri monitoringu hranice s Ukrajinou / František Kmec, Katarína Draganová, Václav Moucha - 2013.In: Aeronautika 2013 : Medzinárodná vedecká konferencia : 25. - 26. apríla 2013, Herľany. - Košice : LF TU, 2013 S. 124-129. - ISBN 978-80-553-1416-7  
[KMEC, František - DRAGANOVÁ, Katarína - MOUCHA, Václav]
- AFD004 [134293] Magnetické rušenie v laboratórnych podmienkach / Miroslav Šmelko, Dušan Praslička - 2013.In: Aeronautika 2013 : zborník príspevkov z medzinárodnej vedecko-odbornej konferencie : 25. - 26. apríla 2013, Herľany. - Košice : LF TU, 2013 S. 254-257. - ISBN 978-80-553-1416-7  
[ŠMELKO, Miroslav - PRASLIČKA, Dušan]
- AFD005 [134295] Teplotná závislosť inerciálnych snímačov pre malé a mini UAV / Miroslav Lašák, Pavol Lipovský - 2013.In: Aeronautika 2013 : zborník príspevkov z medzinárodnej vedecko-odbornej konferencie : 25. - 26. apríla 2013, Herľany. - Košice : LF TU, 2013 S. 170-173. - ISBN 978-80-553-1416-7  
[LAŠŠÁK, Miroslav - LIPOVSKÝ, Pavol]
- AFD006 [134990] Rolling contact fatigue of sintered steels after plasma nitriding / Jozef Čerňan, Rudolf Zahradníček - 2013.In: Acta Metallurgica Slovaca - Conference : Fractography 2012 : international conference : Stará Lesná, High Tatras, Slovak Republic : October 21. - 24. 2012. - Košice : TU, 2013 Roč. 3 (2013), s. 253-258. - ISSN 1338-1660 [ČERŇAN, Jozef - ZAHRADNÍČEK, Rudolf]
- AFD007 [137832] UAV operational safety enhancement using embedded microwires / Josef Blažek ... [et al.] - 2013.In: MOSATT 2013 : proceedings of the International Scientific Conference Modern Safety Technologies in Transportation : volume 5 : 24-26 September 2013, Zlatá Idka, Slovakia. - Košice : Perpetis, 2013 S. 21-24. - ISBN 978-80-971432-1-3  
[BLAŽEK, Josef - DRAGANOVÁ, Katarína - LIPOVSKÝ, Pavol - ŠMELKO, Miroslav]

- AFD008 [137833] Safety equipment and emergency procedures for UAV control / Katarína Draganová, Václav Moucha, František Kmec - 2013.In: MOSATT 2013 : proceedings of the International Scientific Conference Modern Safety Technologies in Transportation : volume 5 : 24-26 September 2013, Zlatá Idka, Slovakia. - Kosice : Perpetis, 2013 S. 44-49. - ISBN 978-80-971432-1-3  
[DRAGANOVÁ, Katarína - MOUCHA, Václav - KMEC, František]
- AFD009 [137834] Application of moving window median filter for UAV control / Miroslav Laššák, Katarína Draganová, Dušan Praslička - 2013.In: MOSATT 2013 : proceedings of the International Scientific Conference Modern Safety Technologies in Transportation : volume 5 : 24-26 September 2013, Zlatá Idka, Slovakia. - Kosice : Perpetis, 2013 S. 149-154. - ISBN 978-80-971432-1-3  
[LAŠŠÁK, Miroslav - DRAGANOVÁ, Katarína - PRASLIČKA, Dušan]
- AFD010 [137835] Safety and rescue system for small unmanned aerial vehicle / Pavol Lipovský, Ján Bajús, Jozef Hudák - 2013.In: MOSATT 2013 : proceedings of the International Scientific Conference Modern Safety Technologies in Transportation : volume 5 : 24-26 September 2013, Zlatá Idka, Slovakia. - Kosice : Perpetis, 2013 S. 161-165. - ISBN 978-80-971432-1-3  
[LIPOVSKÝ, Pavol - BAJÚS, Ján - HUDÁK, Jozef]
- AFD011 [137836] Current trends in the area of unmanned aerial systems personnel education / Václav Moucha, Katarína Draganová, František Kmec - 2013.In: MOSATT 2013 : proceedings of the International Scientific Conference Modern Safety Technologies in Transportation : volume 5 : 24-26 September 2013, Zlatá Idka, Slovakia. - Kosice : Perpetis, 2013 S. 193-197. - ISBN 978-80-971432-1-3  
[MOUCHA, Václav - DRAGANOVÁ, Katarína - KMEC, František]
- AFD012 [137837] UAV composite constructions fatigue monitoring by integrated magnetic microwires / Miroslav Šmelko, Dušan Praslička, Pavol Lipovský - 2013.In: MOSATT 2013 : proceedings of the International Scientific Conference Modern Safety Technologies in Transportation : volume 5 : 24-26 September 2013, Zlatá Idka, Slovakia. - Kosice : Perpetis, 2013 S. 248-251. - ISBN 978-80-971432-1-3  
[ŠMELKO, Miroslav - PRASLIČKA, Dušan - LIPOVSKÝ, Pavol]
- AFD013 [142651] Metódy filtrácie údajov senzorov pre navigačné účely / Miroslav Laššák, Katarína Draganová - 2013.In: Senzorika a magnetometria 2013 : zborník prezentácií a príspevkov z vedeckej konferencie s medzinárodnou účasťou : 5. decembra 2013, Kosice, Slovenská republika. - Kosice : TU, 2013 S. 35-40. - ISBN 978-80-553-1540-9  
[LAŠŠÁK, Miroslav - DRAGANOVÁ, Katarína]
- AFD014 [142653] Koncepcia magnetometrického zabezpečovacieho subsystému / Pavol Lipovský, Ján Bajús - 2013.In: Senzorika a magnetometria 2013 : zborník prezentácií a príspevkov z vedeckej konferencie s medzinárodnou účasťou : 5. decembra 2013, Kosice, Slovenská republika. - Kosice : TU, 2013 S. 41-49. - ISBN 978-80-553-1540-9  
[LIPOVSKÝ, Pavol - BAJÚS, Ján]
- AFD015 [142655] Metodika merania vnútorných šumov magnetických materiálov / Miroslav Šmelko, Viktor Kán, Dušan Praslička - 2013.In: Senzorika a magnetometria 2013 : zborník prezentácií a príspevkov z vedeckej konferencie s medzinárodnou účasťou : 5. decembra 2013, Kosice, Slovenská republika. - Kosice : TU, 2013 S. 66-69. - ISBN 978-80-553-1540-9  
[ŠMELKO, Miroslav - KÁN, Viktor - PRASLIČKA, Dušan]

## AFH - Abstracts of Articles from Domestic Conferences (3)

- AFH001 [135248] Noise Analysis of Magnetic Sensors Using Allan Variance / Katarína Draganová ... [et al.] - 2013.In: CSMAG`13 : 15th Czech and Slovak

Conference on Magnetism : Book of Abstracts and Programme : June 17. - 21., 2013, Kosice. - Kosice : UPJŠ, 2013 S. 322. - ISBN 978-80-8152-015-0

[DRAGANOVÁ, Katarína - KMEC, František - BLAŽEK, Josef - PRASLIČKA, Dušan - HUDÁK, Jozef - LAŠŠÁK, Miroslav]

- AFH002 [135249] Noise Characteristics of Microwire Magnetometer / Pavol Lipovský ... [et al.] - 2013.In: CSMAG`13 : 15th Czech and Slovak Conference on Magnetism : Book of Abstracts and Programme : June 17. - 21., 2013, Kosice. - Kosice : UPJŠ, 2013 S. 317. - ISBN 978-80-8152-015-0  
[LIPOVSKÝ, Pavol - ČVERHA, Andrej - HUDÁK, Jozef - BLAŽEK, Josef - PRASLIČKA, Dušan]
- AFH003 [135250] Advanced Method for Magnetic Microwires Noise Specification / Dušan Praslička ... [et al.] - 2013.In: CSMAG`13 : 15th Czech and Slovak Conference on Magnetism : Book of Abstracts and Programme : June 17. - 21., 2013, Kosice. - Kosice : UPJŠ, 2013 S. 94. - ISBN 978-80-8152-015-0  
[PRASLIČKA, Dušan - ŠMELKO, Miroslav - BLAŽEK, Josef - HUDÁK, Jozef - LIPOVSKÝ, Pavol - FLACHBART, Norbert]

FAI - Editorial and Compile Work of the Book Type (bibliographies, encyclopedies, catalogs, proceedings...) (2)

- FAI001 [137841] MOSATT 2013 proceedings of the International Scientific Conference Modern Safety Technologies in Transportation : volume 5 : 24-26 September 2013, Zlatá Idka, Slovakia/ Róbert Bréda ... [et al.] - 1. vyd. - Kosice : Perpetis - 2013. - 303 s. [CD-ROM]. - ISBN 978-80-971432-1-3.  
[BRÉDA, Róbert - ČEŠKOVIC, Marek - DRAGANOVÁ, Katarína - KMEC, František]
- FAI002 [142656] Senzorika a magnetometria 2013 / Josef Blažek, Katarína Draganová, Mária Jozeková - 1.vyd. - Kosice : TU - 2013. - 23 s.. - ISBN 978-80-553-1540-9.  
[BLAŽEK, Josef - DRAGANOVÁ, Katarína - JOZEKOVÁ, Mária]

# DEPARTMENT OF FLIGHT TRAINING

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## DEPARTMENT'S PROFILE

The Department of Flight Training (KLP) was established on 01/09/1973 as one of the founding departments of the Military Aviation University of the Slovak National Uprising. After the merge of the Air Force Academy of General Milan Rastislav Štefánik and Technical University in Košice, the Faculty of Aeronautics was established and KLP became a part of it. DFT provides teaching subjects focusing in particular on the issue of theoretical training of flying personnel, ATC staff, simulation training of flying personnel and air traffic controllers. It also involves teaching students in the theoretical courses of flight training and air traffic control.

Guaranteed university education provided in bachelor's study programs:

- Professional Pilot
- Air Traffic Controller

The Department of Flight Training also:

- carries out the research and development activities particularly in selected areas of training flying personnel, air traffic controllers, aviation safety and air transport control
- participates in the development and improvement of new methods in theoretical and practical training courses of flight preparation.

## **STAFF**

Associate Professors: doc. Ing. Ján BÁLINT, CSc.

Assistant Professors: Ing. Matej ANTOŠKO, PhD.

PhDr. Anna ČEKANOVÁ, PhD.

Ing. Stanislav ĎURČO, PhD.

Ing. L'ubomír FÁBRY, PhD.

Ing. Peter KALAVSKÝ, PhD.

Ing. Peter KANDRÁČ, PhD.

Ing. Juraj VAGNER, ING-PAED IGIP

Secretary: Božena CIENIKOVÁ

PhD. Students: Ing. Jozef SABO

Ing. Eva PIĽOVÁ

## **LABORATORIES, SPECIALIZED FACILITIES**

- Simulator Laboratory LETVIS for practical training of air traffic controllers and professional pilots on the light single-engine aircraft (Cessna 172);
- Regional Aviation Centre equipped with two modern simulators (Cessna 172 RG, Baron B 58);
- The Data Storage Centre and GIS Laboratory for simulation of navigation procedures at different stages of flight, GIS modelling and integrated processing of GNSS measurements;
- Language Computer Laboratory for Aviation English training
- Laboratory for Procedural Air Traffic Control Training

## **TEACHING**

Undergraduate Study (Bc.)

<b>Subject</b>	<b>Name of Lecturer</b>
<b>Summer semester</b> Airports Bachelor Thesis <b>Winter semester</b> Practical Flight Training Flight Planning and Monitoring Aviation Communication	Doc. Ing. Ján BÁLINT, CSc.
<b>Summer semester</b> Aviation Regulations I Practical Training in Procedural Control <b>Winter semester</b> Practical Training in Air Traffic Control	Ing. Matej ANTOŠKO, PhD.

<b>Aviation Legislation</b>	
<b>Summer semester</b> English Language II English Language III English Language IV English Language VI English for Specific Purposes Aviation English Optional Language (Russian language)	PhDr. Anna ČEKANOVÁ, PhD.
<b>Winter semester</b> English Language I English Language III English Language IV Optional Language (Russian language)	
<b>Summer semester</b> Air Navigation I Air Navigation II Air Navigation Fundamentals of Cartography	Ing. Stanislav ĎURČO, PhD.
<b>Winter semester</b> Aviation Regulations II Operational Procedures Flight Planning and Monitoring	
<b>Summer semester</b> Automation in ATC Procedural Air Traffic Control Practical Training in Procedural Air Traffic Control	Ing. Ľubomír FÁBRY, PhD.
<b>Winter semester</b> Radar Air Traffic Control Practical Training in Air Traffic Control Professional Environment	
<b>Summer semester</b> Aircraft Weight and Balance Search and Rescue Services	Ing. Peter KALAVSKÝ, PhD.
<b>Winter semester</b> Aircraft Performance	
<b>Summer semester</b> Aviation Meteorology II Aviation meteorology Air Navigation	Ing. Peter KANDRÁČ ,PhD.
<b>Winter semester</b> Flight Planning and Monitoring Aviation Meteorology I	
<b>Summer semester</b> Aviation Regulations I Safety Management Systems	Ing. Juraj VAGNER, ING-PAED IGIP
<b>Winter semester</b> Air Traffic Control	
<b>Summer semester</b> Airports Aircraft Weight and Balance	Ing. Jozef SABO
<b>Winter semester</b> Aircraft Performance Flight Planning and Monitoring	

## Graduate Study (Ing.)

<b>Subject</b>	<b>Name of Lecturer</b>
<b>Summer semester</b> Semester Project on Air Transport Management of Flight Training and Flight Safety	Doc. Ing. Ján BÁLINT, CSc.
<b>Summer semester</b> Semester Project on Air Transport Legal Standards in Aviation	Ing. Matej ANTOŠKO, PhD.
<b>Summer semester</b> Semester Project on Air Transport <b>Winter semester</b> English for Specific Purposes	PhDr. Anna ČEKANOVÁ, PhD.
<b>Summer semester</b> Semester Project on Air Transport	Ing. Stanislav ĎURČO, PhD.
<b>Summer semester</b> Semester Project on Air Transport Safety Systems and Air Traffic Control <b>Winter semester</b> Safety Systems and Air Traffic Control	Ing. Ľubomír FÁBRY, PhD.
<b>Summer semester</b> Semester Project on Air Transport Air Traffic Management and Flight Safety <b>Winter semester</b> Operational Procedures in Air Traffic	Ing. Peter KANDRÁČ ,PhD.
<b>Summer semester</b> Semester Project on Air Transport Air Traffic Management and Flight Safety	Ing. Juraj VAGNER, ING-PAED IGIP
<b>Summer semester</b> Semester Project on Air Transport	Ing. Eva PIĽOVÁ
<b>Summer semester</b> Semester Project on Air Transport	Ing. Jozef SABO

## Postgraduate Study (PhD.)

<b>Subject</b>	<b>Name of Lecturer</b>
<b>Summer semester</b> Safety and Quality of Air Traffic <b>Winter semester</b> Air Traffic Management	Doc.Ing. Ján BÁLINT, CSc.
<b>Summer semester</b> English for Specific Purposes <b>Winter semester</b> English for Specific Purposes	PhDr. Anna ČEKANOVÁ, PhD.

**RESEARCH PROJECTS**

## Review of the current state:

The Department of Flight Training currently has three specialized laboratories. It's a simulator laboratory LETVIS for practical training of air traffic controllers and professional pilots on the light single-engine aircraft (Cessna 172). On the simulator LETVIS, a research on human factors in air traffic control environment was conducted. The specific output of this research, a dissertation, has recently been defended. The flight simulator is currently being used for the research and collecting of psycho- physiological parameters during flying the aircraft with different equipment on board. The output of this research should be a complex study of an

analysis of training methods of pilots and the use of flight simulators. At the same time, within this research, the members of the DFT have written several scientific articles published for scientific conferences and journals. At the end of the year 2013 a new project was started: Universities as the Knowledge Society Development, ITMS code 26110230120. Under the joint project with the University of Zilina the Brokerage Aviation Centre for Technology Transfer and Expertise in Transport and Transport Infrastructure, the Regional Aviation Centre has been built and equipped with two modern simulators (Cessna 172 RG, Baron B 58). Next, a part of the centre is the data storage with the memory of 80 TB and a laboratory enabling simulation of navigation procedures at different stages of flight, modelling using GIS and integrated processing of GNSS measurements. DFT staff began working on the project proposal "Virtual simulation room for airspace control ". The interconnected network of both these projects would create a unique opportunity to build a local network for virtual flying and air traffic control at the Department of Flight Training.

The local network would then allow:

- ❖ Simulated virtual flying in the space of a data model :
  - Flying on ATS routes,
  - VFR approach,
  - Instrument approach procedures using technical means for navigation
- ❖ Simulation of air traffic control in :
  - Control Zone (CTR) ,
  - Terminal control area (TMA) ,
  - Control Area (CTA)
- ❖ Simulation of air traffic control services in:
  - Area Control Centre ( ACC),
  - Approach control (APP),
  - Airport control tower (TWR)
  - Flight information Centre (FIC) ,
  - ATS reporting offices (ARO,
- ❖ Preparing for transitions to the IVAO network.

## Education

In the educational field, this virtual network would enable the extension of theoretical training of students in practical training (exercises) :

- training of air traffic controllers in the study program of Air Traffic Control;
- Training of air traffic dispatchers as the study program Air traffic control extended by the specialization Air traffic dispatcher;
- training of pilots in the extended study program Professional pilot by practical exercises on the use of technical means of navigation and practical exercises in communication;
- Exercises in flight training courses as a part of the regular curriculum.

## Scientific work and research

In the area of scientific work and research at DFT the intended virtual network allows:

- research activities in the field of procedure proposals of the safety approach using the advanced satellite navigation systems - GBAS and SBAS;
- testing the potential uses of these practices in terms of flight technical errors FTE and limit values of alert to the loss of integrity IMAL, errors caused by human factors in conjunction with the issue of air traffic control;

- the proposal of operational procedures for crew and air traffic controllers applying procedures using GNSS;
- modelling of air traffic flow;
- exploring the runway and sector capacity.

As a part of these DFT development plans in science and research, we would like to cooperate with other departments of the Faculty of Aeronautics:

- ❖ Department of Air Transport Management
  - Joint Development Projects,
  - Students' Research Work,
  - Common Scientific Tasks,
- ❖ Department of Avionics
  - Joint Development Projects,
  - Scientific research,
  - Publishing activities,
- ❖ Department of Aviation Technical Studies
  - KEGA project,
  - Publishing activities.

## CO-OPERATION

### Co-operation in the Slovak Republic

Zilina University, Department of Air Transport:

- the development project "Brokerage Aviation Centre for Technology Transfer and Expertise in Transport and Transport Infrastructure";
- Joint Doctoral and Habilitation Procedures;
- Participation at the International Conference, Zilina University, "Safety and Quality in Civil and Military Air Transport" on 18 – 19 April 2013;
- Publishing activities.

Transport Authority of Slovak Republic  
Air Navigation Services of Slovak Republic  
OPERA JET, Slovak Private Jet Company

### International Co-operation

Czech Technical University of Prague, Department of Air Transport:

- participation at the International Conference;
- joint Doctoral and Habilitation Procedures.

Technical University of Ostrava, Department of Air Transport:

- participation at the International Conference
- joint Doctoral and Habilitation Procedures;
- publishing activities.

### Visitors to the Department

- Ing. Vladimír Nemec, PhD. – Czech Technical University of Prague;
- Doc. Ing. Vladimír Smrž, PhD. – Technical University of Ostrava
- Ing. František Martinec, CSc.

### Visit of Staff Members to Foreign Institutions

Department of Air Transport, Faculty of Mechanical Engineering - VŠB Technical University of Ostrava – doc. Ing. Bálint, CSc., Ing. Vagner, Ing. Ďurčo, PhD., Ing. Fábry, PhD., Ing. Antoško, PhD.

Erasmus: Ing. Juraj VAGNER, Air Navigation Services, Czech Republic, Airport Karlovy Vary

### **Membership in Slovak Organization and Societies**

Council of Universities of SR

- PhDr. Anna Čekanová, PhD. – a vice chairman
- Ing. Juraj Vagner, ING-PAED IGIP – a member

### **OTHER ACTIVITIES**

Patents, certificates

- Certificate of Training Organization CAA of the SR „Basic Training“, ATM SK/O3

Conferences, Seminars, workshops

- Faculty of Aeronautics TUKE, International Conference Aeronautics 2013, Herlany  
25-26 April 2013

Project for Industry Companies

- the development project Brokerage Aviation Centre for Technology Transfer and Expertise in Transport and Transport Infrastructure, ITMS code 26220220156;
- Package of Elements for Improvement and Innovation of Education, Package 02 ITMS code 26110230070, Package 04 ITMS code 26110230093;
- Research of Training Methods of Pilots Using Flight Simulators, 2620220161;
- Project "KEGA" 028 TUKE 4/2013 – the Proposal of the Study Program on Air Unmanned Systems

### **GRADUATE THESES**

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	9	25	1

### **BACHELOR'S THESES**

NAME OF STUDENT	NAME OF THESIS
Čekanová Daniela	Comparison of Training ATC in Foreign Aviation Schools and Flight Training Centres.
Glaser-Opitz Leonard	Automated ATC Systems and Flight deck Integration
Homola Libor	PC Simulation of Air Traffic Control Tower and the Possibility of Their Use in Training
Jalč Patrik	PC for Radar Air Traffic Control and the Possibility of their Use in Training
Juríček Pavel	The Influence of the Main Meteorological Elements on the Aircraft Performance
Masaryk Vladimír	The History of Hyperbolic Navigation Systems In Aviation
Miženková Žaneta	Prevention of Runway Incursion
Pončáková Natália	The Analysis of Professional Aviation English Learning Strategies of Students at the Faculty of Aeronautics
Ševčík Miroslav	Potential Uses of Software Tools for Complex Solution of Navigational Calculations in Air Navigation

## MASTER'S THESES

NAME OF STUDENT	NAME OF THESIS
Bc. Bobček Marek	Potential Uses and Construction Principles of RNAV Non-Precision Instrument Approach Procedures Employing the Basic GNSS Helicopter Receiver.
Bc. Capandová Andrea	Developing of Training Programme for Flight Dispatchers.
Bc. Gajdoš Tomáš	Analysis of The Impact of Basic Meteorological Elements And Phenomena on Regularity and Safety in Aviation.
Bc. Gál Lukáš	Optimization Of Pre-Flight Preparation of PPL Pilots.
Bc. Gallo Ivan	Draft of Procedural Exercises for the Malacky Airport.
Bc. Hájková Lenka	The Assessment of The Effectiveness of The Air Meteorological Service.
Bc. Hybenová Adriana	The Impact of the Main Meteorological Elements on The Effectiveness of Air Transport.
Bc. Javorka Matej	Potential Uses of GBAS Satellite Navigation System for Civil Aviation at the Sliac Airport.
Bc. Jergová Mária	The Meteorological and Climatic Factors in the Safety Management.
Bc. Kandrová Alena	Application of the Knowledge Gained From the Air Accidents into the Training Process.
Bc. Kiš Miroslav	Activity of Dispatch of Small Airline Company.
Bc. Kocúrko Tomáš	Possibilities of Building Technical Equipment to Monitoring Air Traffic.
Bc. Kopčanová Angelika	Alternative Power Energy for ADS Systems.
Bc. Kováčová Lucia	Possibility of Creating an Information Portal Aviation Incidents, Incidents and Accidents.
Bc. Lipták Peter	Service Time of Aircrew.
Bc. Malík Peter	Software Environment for Procedural Training of Air Traffic Controllers.
Bc. Milunovic Milan	CDM Procedures for the Beograd Airport.
Bc. Očkaiková Lenka	The Main Aspects Affecting the Use of Air Transport in Tourism.
Bc. Ondášová Miroslava	The Analysis of Specialised Accounting and Financial Terminology in British and American English; Dictionary of Special Terms.
Bc. Račko Michal	The Cost of Safety and its Impact on the Effectiveness of an Air Enterprise.
Bc. Ribárová Michaela	The Meteorological and Climatically Factors in the Decision Making Process of the Air-Transport Manager.
Bc. Staňa Marián	Current Availability of Global Navigation Satellite Systems and Their Wide Area Augmentation Segments on the Territory of the SR.
Bc. Šlampiak Radoslav	Complex Solution of Flight Planning Using a Flight Planning Software.
Bc. Švec Juraj	The Safety Management in the Preparation of Pilots.
Bc. Varga Tomáš	The Impact of the Meteorological Factors on the Economy of an Air Enterprise.

## PhD. THESES

NAME OF STUDENT	NAME OF THESIS
Ing. Matej Antoško	Human Factor in System of ATC

## PUBLICATIONS

### Journals

- LEDERLEITNEROVÁ, Andrea - PILOVÁ, Eva: Tenerife Airport Disaster from the Perspective of Shell Model. In: Zeszyty Naukowe. Vol. 20, no. 1 (2013), p. 127-135. - ISSN 1641-9723
- LIPTÁK, Peter - VAGNER, Juraj: Air Crew Duty Time2013. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479
- MILUNOVIC, Milan - VAGNER, Juraj: CDM Procedures for the Belgrade Airport. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479
- JAVORKA, Matej - ĎURČO, Stanislav: Potential Use of GBAS Satellite Navigation System for Civil Aviation at the Sliac Airport. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- ONDÁŠOVÁ, Miroslava - ČEKANOVÁ, Anna: The Analysis of Specialised Accounting and Financial Terminology in British and American English; Dictionary Of Special Terms. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- CAPANDOVÁ, Andrea - VAGNER, Juraj: Flight Dispatcher and Licensing. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479
- KIŠ, Miroslav - VAGNER, Juraj: Operation of Flight Dispatching of Small Airline Company. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- ŠLAMPIAK, Radoslav - ĎURČO, Stanislav: Complex Solution of Flight Planning Using a Flight Planning Software. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- STAŇA, Marián - ĎURČO, Stanislav: Current Availability of Global Navigation Satellite Systems and their Wide Area Augmentation Segments on the Territory of the SR. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- KANDROVÁ, Alena - KANDRÁČ, Peter: Application of the Knowledge Gained from the Accidents into the Training Process. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-7. - ISSN 1335-9479
- RAČKO, Michal - KANDRÁČ, Peter: The Cost of Safety and its Impact on the Effectiveness of an Air Enterprise. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-5. - ISSN 1335-9479
- HÁJKOVÁ, Lenka - KANDRÁČ, Peter: The Assessment of the Effectiveness of the Air Meteorological Service. In: Acta Avionica. Vol. 15, N27 (2013), s.1-4. ISSN 1335-9479
- MALÍK, Peter - ANTOŠKO, Matej: Software Environment for Procedural Training of Air Traffic Controllers. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479
- GÁL, Lukáš - ANTOŠKO, Matej: Optimization of Pre-Flight Preparation of PPL Pilots. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-3. - ISSN 1335-9479
- GAJDOŠ, Tomáš - FÁBRY, Ľubomír: Analysis of the Impact of Basic Meteorological Elements and Phenomena on Regularity and Safety in Aviation. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-4. - ISSN 1335-9479

- KOPČANOVÁ, Angelika - FÁBRY, Ľubomír: Provision of ADS Systems by Alternative Power Sources. In: Acta Avionica. Vol.15, č. 27 (2013), s. 1-6. - ISSN 1335-9479
- KOVÁČOVÁ, Lucia - FÁBRY, Ľubomír: Options to Make up the Information Portal Enlisting the Air Incidents, Events and Air Accidents. In: Acta Avionica. Vol. 15, č. 27 (2013), s. 1-7. - ISSN 1335-9479

### Other Publications

PUBLICATION TYPE	CONFERENCE PROCEEDINGS		OTHER
	Foreign	Home	
Number	1	8	1

### Department offers

Aviation English language – 2 week courses (January or June) – Standardized phraseology and basic aircraft technical terminology

Aviation Russian language– 2 week course (February) – Radiotelephony phraseology and basic aircraft terminology

## DEPARTMENT OF AIR TRANSPORT MANAGEMENT

### Contact

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Faculty of Aeronautics,  
Technical University Kosice,  
Rampova 7, 042 21 Kosice  
web page: <https://web.tuke.sk/lf-kmlf/>  
Phone No.: +421 55 602 6200

Head of Department: doc. Ing. Slavomír Kiš, CSc.  
E-mail: [slavomir.kis@tuke.sk](mailto:slavomir.kis@tuke.sk)  
Phone No.: +421556026192



### DEPARTMENT'S PROFILE

Department of Air Transport Management (KMLP) was established on 01.09.2004, as one of the scientific and educational institution in a merger of the Institute of Aeronautics Air Force Academy of General M.R. Stefanik and the Technical University of Kosice under the Law n. 455/2004 and Act n. 131/2002 on Higher Education. After completion of the transformation process on 01.02.2005 became part of the Faculty of Aeronautics. The department staff has years of experience in training civilian and military aviation specialists, pilots and other members of the Air Force in air transport management, as the Department of Air Transport

Management was transformed from the Department of Combat and Operational Use of Aviation - its predecessor, which was part of the Air Force Academy in Kosice.

Guarantees provided higher education:

- Bachelor program in Air Transport Management
- Engineering study program in Air Transport Management
- Doctoral program in Air Transport Management

It carries out research and development activities in selected issues of air transport management with emphasis on:

- Management and Marketing of Airlines
- Economic Problems of Airlines
- Problems of Organizing Activities of Airports
- Economic Issues of Airport Operations

It is divided into the following components:

- Department of Aviation Management
- Department of aviation safety and airport

## **STAFF**

Professors:

- prof. Ing. Milan Džunda, CSc.
- doc. Ing. Stanislav Szabo, PhD., MBA

Associate Professors:

- doc. Ing. Slavomír Kiš, CSc.
- doc. RSDr. Ján Poprenda, CSc.

Assistant Professors:

- Ing. Ján Bačík, CSc.
- Ing. Pavol Bajusz
- Ing. Vladimír Begera, PhD.
- Mgr. Peter Čekan, PhD.
- Ing. Robert Klír, PhD.
- Ing. Alica Tobisová, PhD.
- Ing. Ľuboš Socha, PhD.
- Ing. Róbert Rozenberg, PhD.

Technical Staff: Vojtech Rajnec

Secretary: Helena Timková

PhD. Students (Internal):

- Ing. Dorota Feketeová
- Ing. Natália Kotianová
- Ing. Edina Pappová
- Ing. Iveta Podoľáková
- Ing. Iveta Šebeščáková

## TEACHING

### Undergraduate Study (Bc.)

Subject	Name of Lecturer
General Economic Theory	Ing. Alica TOBISOVÁ, PhD.
General Principles of Law	Ext.teacher
Economics of Air Transport	Ing. Alica TOBISOVÁ, PhD.
Human Factors in Aviation	doc. RSDr. Ján POPRENDÁ, CSc.
Administrative Law	Ext.teacher
Sociology	Mgr. Peter ČEKAN, PhD.
Organization of Air Transport	Ing. Vladimír BEGERA, PhD.
Management	Mgr. Peter ČEKAN, PhD.
Economy of Airline	Ing. Alica TOBISOVÁ, PhD.
International Air Law	Ing. Róbert KLÍR, PhD.
Accounting and Finance	Ing. Alica TOBISOVÁ, PhD.
Principles of Marketing	doc. Ing. Stanislav SZABO, PhD. MBA
Airports	Ing. Vladimír BEGERA, PhD.
Transport Aircraft	Ing. Róbert ROZENBERG, PhD.
Air Transport Process	Ing. Vladimír BEGERA, PhD.
Airlines	Ing. Róbert ROZENBERG, PhD.
Aeronautical Ground Information Systems	prof. Ing. Milan DŽUNDA, CSc.
Psychological Aspects of Managerial Work	doc. RSDr. Ján POPRENDÁ, CSc.
Final Thesis	prof. Ing. Milan DŽUNDA, CSc.

### Graduate Study (Ing.)

Subject	Name of Lecturer
Operational and System Analysis	Ing. Ján BAČÍK, CSc.
Economy of Airport Operation	Ing. Pavol BAJUSZ
Airport Management	doc. Ing. Slavomír KIŠ, CSc.
Business Law	Ext.teacher
Economy of Airline	Ing. Pavol BAJUSZ
Human Resource Management	Ing. Róbert KLÍR, PhD.
Airline management	doc. Ing. Slavomír KIŠ, CSc.
Labour Law	Mgr. Peter ČEKAN, PhD.
Quality Management	Ing. Vladimír BEGERA, PhD.
Project Management	Ing. Alica TOBISOVÁ, PhD.
Marketing of Air Transport	doc. Ing. Slavomír KIŠ, CSc.
Semester Project of Economics of Air Transport	Ing. Róbert ROZENBERG
Crisis Management of Airport	Ing. Róbert KLÍR, PhD.
Managerial Ethics	doc. Ing. Stanislav SZABO, PhD., MBA
Controlling	Ing. Róbert KLÍR, PhD.
Managerial Communication	doc. RSDr. Ján POPRENDÁ, CSc.
Master's Thesis	Ing. Ján BAČÍK, CSc.

### Postgraduate Study (PhD.) - Recommended Study Plan

Subject	C; CO; O
Professional English	C
Dissertation Project I, II, III	C
Dissertation Thesis	C
Individual and Team Scientific Work	C

Selected Topics in Mathematics	CO
Theory of Transport Systems	CO
Scientific Work and Experiment	CO
Economics of Air Transport	CO
Mathematical and Computer Simulation	CO
Aeronautical Communications Systems	CO
Air Navigation Systems	CO
Aeronautical Tracking Systems	CO
Air Transport Management	CO
Aviation operations	CO
Operational Aspects of Airports	CO
Economy of Air Company	CO
Safety and Quality of Air Transport	CO
Crisis Management in Aviation	CO
Quality Management in Aviation	CO
Marketing in Aviation	CO
Logistics of Air Transport	CO
Information Systems in Aviation	CO
Protection of Airports	CO

C - Compulsory Subject; CO - Compulsory Optional Subject; V - Optional Subject

## RESEARCH PROJECTS

### Research of pilots training methods by using flight simulators

Researchers from DATM:

- Ing. Luboš Socha, PhD.;
- doc. Ing. Slavomír Kiš, CSc.
- Ing. Róbert Rozenberg, PhD.

Project designed in collaboration with the Education Resource Centre, OJSC

Aim of The Project: Research on improving aviation safety through effective collaboration of a special research institute and transfer of new knowledge into economic practice.

Time frame of the project: May 2012 - October 2014

### Operational Programme EDUCATION - Package of innovative features to improve learning and innovation at TUKE

Aim of The Project: Adapt higher education to needs of the knowledge society; Innovation of Bc., Ing., and PhD. study programs of Air Transport Management

Framework Activity: Preparation of new course materials and their implementation in practice and introduction of new methods into curricula so that they become attractive and interesting for young people

Project Manager: doc. Ing. Slavomír Kiš, CSc.

Investigators:

- doc. Ing. Slavomír Kiš, CSc.
- prof. Ing. Milan Džunda, CSc
- doc. RSDr. Ján Poprenda, CSc.
- doc. Ing. Stanislav Szabo, PhD., MBA
- Ing. Ján Bačík, CSc.
- Ing. Vladimír Begera, PhD.
- Mgr. Peter Čekan, PhD.
- Ing. Robert Klír, PhD
- Ing. Róbert Rozenberg
- Ing. Ľuboš Socha, PhD.
- Ing. Alena Tobisová, PhD.

Time frame of the project: March 2013-April 2015

**Operational Programme EDUCATION** - Package of supplements for further reform of education at TUKE

Investigators:

- Prof. Ing. Milan Džunda, CSc.
- Doc. RSDr. Ján Poprenda, CSc.
- Ing. Ján Bačík, CSc.
- Ing. Vladimír Begera, PhD.
- Mgr. Peter Čekan, PhD.
- Ing. Robert Klír, PhD.
- Ing. Ľuboš Socha, PhD.
- Ing. Alica Tobisová, PhD.

Time frame of the project: September 2013-April 2015

## CO-PERATION

### Co-operation in Slovak Republic

- Airport Kosice

### International Co-operation

- Czech Technical University in Prague
- Brno University of Technology
- Państwowa Wyższa Szkoła Zawodowa w Chełmie

### Visitors to the Department

- Roslan Grzegorz - National Defence University (Akademia Obrony Narodowej), Warsaw, Poland: 16.09.2013 - 20.09.2013
- Zieliński Tadeusz - National Defence University (Akademia Obrony Narodowej), Warsaw, Poland: 16.09.2013 - 20.09.2013

## Contracts

Erazmus:

Ing. Ľuboš Socha, PhD. - Czech Technical University in Prague 12/2013

doc. Ing. Stanislav Szabo, PhD., MBA - Czech Technical University in Prague 12/2013

## GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	32	112	1

## BACHELOR'S THESES

NAME OF STUDENT	NAME OF THESIS
Bóková Anita	Interplant and Out-plant Communication in a Selected Airline
Bratrú Andrea	Motivation as a Tool for Business Success
Britanová Eva	Airbus Corporate Jets
Bubelíny Tomáš	The Process of Selection Employees in the Airport
Drotárová Dominika	Motivational Tools and their Usage in the Airline
Foľko Roman	Methods of Evaluation of Employees at the Airport
Gramata Ján	The Employee Evaluation System of a Selected company
Holečková Ivana	Conditions for Establishment and Operation of Flight
Hreňová Lucia	Prospects of Development of Development of the Aviation Market in the Area of Cargo Aircraft
Chripko Gabriel	The System of Education of Employees in the Aviation Company
Il'kovič Miroslav	Boeing Business Jets
Inkáb Stanislav	Business Ethics as Part of Human Resource Management In The Selected Company
Jarkovská Lucia	Psychophysiological Factors Affecting the Performance of Aviation Personnel
Jenčíková Lucia	Analysis of Legislation Airports
Kasardová Michaela	Economic Efficiency of a Selected Airline
Kocurek Vladimír	The Role of Slovak Trade Inspection In Solving The Rights of Passengers an Passenger Air Traffic
Kočišová Mária	Compensation as Encouragement to Workers In The Company
Kopča Miroslav	Character of Air Carriers – Australia, Indonesia, Thailand
Kozub Vladimír	Corporate Culture as a Competitive Tool
Lukáč Peter	Radiolocation Systems of Civil Aviation
Mertinko Peter	The Importance of the Marketing Environment in Aviation
Mihok Martin	Collection and Processing of Radiolocation Information for Civil Aviation
Molek Anton	Mediation as a Tool of Resolving Labour Disputes
Nazarejová Anna	The Impact of Emotions on the Job Performance of Aviation Personnel
Orgovánová Jana	Products Provided by the Major Air Transport Companies of The European Union
Pristášová Petra	The Financial Structure and Financing Possibilities of a Company
Rus Štefan	Character of Air Carriers – Japan, China, India
Sabovčík Marek	Possibilities of Using Unmanned Aerial Vehicles in Commercial Aviation And Flight Safety
Slezáková Zuzana	Risk Assessment in a Selected Company
Tvarovská Mária	Possibilities of Reducing Operating Costs of Passengers and Baggage Handling at an Airport
Vitáková Veronika	The Use of Marketing Tools in the Aviation Business
Žák Jozef	Analysis of the Aviation Market of Aircraft Designed for

	Basic Pilot
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## MASTER'S THESES

NAME OF STUDENT	NAME OF THESIS
Andraščíková Klaudia	Dimensioning of the Subsystems of Aircraft, Passengers and Baggage Handling by Theory of Mass Service
Babicová Martina	Brand Airport as an Important Asset to its Competitiveness
Bačo Ivan	Prediction of the Financial Health of the Airport
Balogh Ladislav	Benchmarking of Selected Airports
Baranová Adriana	Auditor and Auditing
Benetin Róbert	The Economic Efficiency of Selected Air Traffic
Bezegová Andrea	Enlisting, Selection and Admission of Workers in the Aviation Business
Bialobok Jozef	Aviation Equipment in Search And Rescue Services
Botová Lucia	Economic Aspects of Quality Management
Complťová Michaela	Logistics Processes at the Airport
Čandová Jana	Rules for the Allocation of Slots at Airports of the European Union
Čegiňová Viera	Possible Strategies of Airlines in the Slovak Republic
Čerpák Slavomír	Changes in the Aviation Business
Červená Lenka	Multinational Companies in the Aviation
Čipak Miroslav	The Impact of the Global Economic Crisis on Airports within The European Union
Danková Daniela	The Development of E-Commerce Firms in Slovakia
Dermek Jaroslava	Remuneration and Benefits
Dermek Ľubomír	Preparation of a Selected Companies for Certification Audit if Quality Management System
Dorčáková Martina	Financial and Economic Analysis of Selected Risks in a Company
Dučaiová Michaela	The Development of Communication Skills of Managers in the Selected Company
Dzubová Silvia	Activities And Operational Procedures for Irregularities in the Air Transport
Farkaš Peter	Airport Safety Against Unlawful Acts
Fedaková Katarína	Satellite Communication Systems in Aviation
Feketeová Dorota	Alternative Techniques of Passengers Air Transport
Frančák Michal	Role of Active Listening of Pilots and Air Traffic Controllers
Gajdošová Emília	Comparison of Charter Flights from Košice in the Years 2010 To 2012
Martin Goláb	The Quality of Airline Human Resources
Golianová Jana	Short And Middle-Term Planning of the Capacity Usage of the Aircraft, Passengers and Baggage Handling Subsystems by Using MS Excel
Heligmanová Marianna	Analysis of the Communication Mix in the Selected Company
Hovancová Dominika	The Most Common Causes of Aircraft Accidents in the Area Of Human Factors
Hrabovská Erika	Small Operators of Air Passenger and Cargo Transportation
Hricková Mária	Time Management as a Factor in Streamlining Operations Manager
Hrubý Maroš	Simulation Model for the Optimal Security Control of

	<b>Passengers and Baggage at an Airport</b>
Hunčárová Kristína	Concepts and Layout of Airport Terminals in the European Union
Chovanová Zuzana	The Process of Creation and Management of Airlines' Networks
Illés Szabolcs	The Implementation of Safety Management Systems at Airports in the Slovak Republic
Jacková Simona	Reporting of Accidents and Incidents in Civil Aviation
Jaskievičová Monika	Wide-Spread Satellite Navigation Systems
Jeňová Lenka	Personnel Strategy Slovakian Airline
Jurek Ľubomír	Manual for Recognition of Airliner
Kavalcová Emília	Stalking In the Workplace and its Implications
Klesiková Ivana	The Development of Operating and Economic Parameters of Current Wide-Body Aircraft
Komová Juliána	Possibilities of Improving Communication Skills of Flying Personnel
Kostovčík Branislav	Contemporary Management Techniques in Managing And Administering Airport
Kováčsová Natália	The Comparison of the Amadeus and Galileo Global Distribution Systems for Selling the Air Tickets in the Air Traffic Agencies
Kováčik Richard	Electronic Database of Aircraft Airlines
Krajnák Dávid	Possibilities of Using Small Rotor Uavs
Kramárová Michaela	The Application of Mediation to Resolve Disputes In Aviation
Križová Katarína	The Impact of the Global Economic Crisis on Selected Air Carriers
Leskovjanská Adriana	Current Status and Prospects of the Aviation Industry in the USA
Lőrinc Ondrej	Digital Company In the Aerospace Industry
Lucík Ondrej	Using Information Technology as a Tool for Improving the Efficiency of Manufacturing Processes in the Aerospace Industry
Macejko Tomáš	Logistics Selected Airline
Macko Maroš	Analysis of Marketing Activities in a Selected Aviation Company
Majláthová Ivana	Current Status and Prospects of Development of Chinese and Russian Aviation Industries
Markušová-Bučková Jana	The Development of Air Transport in Russia after the Year 2000
Maťašovský Peter	Aspects Of The Decision of Airlines to Operate the Airline
Medvecková Cecília	Building Customer Relationships Through Information and Communication Technology
Mikler Martin	Classification of Crisis Phenomena In Air Transport
Mikloško Michael	Process of Air Transportation at Wizz Air
Molnárová Lucia	Analysis of The Motivational Climate and Working Environment In A Company
Nalevanková Katarína	Economic Aspects of Operation Systems of Aviation Support
Novisedláková Katarína	Process of Air Transportation at Austrian Airlines
Ondovčáková Jana	The Business Plan of The Selected Company
Oravcová Svetlana	Logistics of the Airport
Palkoci Marek	The Establishment of the Airline
Palková Tamara	Ecological Aspects of Operating Communication Systems
Pállová Zuzana	Optimization of the Information System in a Selected

	Organization
Partilová Ivana	VHF Specification of a Position Marker
Pavlikovský Lukáš	Competition of Air and Railway Passenger Transport in Europe
Perháč Marek	Crisis Phenomena in a Society, their Evolution and Sequence
Petrasová Andrea	Private Initiative Mining of Universe
Petrová Lucia	Optimization of Airline Organizational Structure
Pikorová Marianna	Progressive Methods of Management Training in Companies Currently
Plavnická Lucia	Collection and Processing of Radiolocation Information
Podolák Marek	Motivation of Employees in the Selected Companies
Podracky Róbert	Economic and Operational Implications of Airport Development
Poláček Ján	Innovative Methods of Training Managers in the Selected Company
Polanský Kamil	Economic Efficiency of an Aircraft on Route
Pribula Emil	The Use of Visualization as a Tool To Reduce The Economic Costs In The Airline Industry
Prívozníková Petra	Aircrew Preparation of Transport Aircraft
Rusnák Peter	Development and Operation of Aircraft Boeing 787 Dreamliner
Rusnaková Dana	Legislative Conditions for the Launch of an Airline Operation
Sedláková Lívia	Management in Aviation Companies
Sekelský Marek	Measuring and Improving the Quality of Processes in a Selected Company
Seman Ondrej	Attributes of Jobs in Airlines
Serbin Róbert	Causality of Air Traffic Accidents and Incidents
Siváková Dominika	The Development of Operating and Economic Parameters of Current Narrow-Body Aircraft
Smreková Viera	Management Games as Part of the Training of Managers. Project For E-Learning.
Strelcová Stanislava	Risk Management In Air Transportation
Šak Marek	Selected Technical Means of Detection And Pyrotechnic Security at An Airport
Šimkovič Norbert	Methods of Security Checks of Passengers and Baggage
Šimo Andrej	Terrorism in Air Transportation
Švelta Samuel	Crisis Management System in Selected Company
Takácsová Klaudia	Airline Dispatchers Activity in the Process of Planning and Management
Tamášová Zdenka	Factors Affecting Modal Choice of the Population of the Czech And the Slovak Republic
Tarajčáková Sláva	Optimization of Airline Operating Costs
Tarhaničová Lucia	Possibilities of Air Transport Oversized Loads
Tatarčíková Veronika	Innovations in the Field of Advertising and the Use Of Modern Technology
Thinschmidtová Ingrid	Manpower Management and Improving Quality Management in An Organization
Tomčíková Jana	Air Transport Passenger Rights
Tomková Martina	Communication Of Both Airlines And Airport Personnel with the Customer
Topercerová Lívia	The Interest of Target Customers for Air Carriage According to IATA
Tóthová Adriana	Ecological Aspects of Operating Radiolocation Systems
Trojčák Tomáš	Compare the Cost to Travel Around the World LC Alliance Carriers and Companies.

Urbanová Jana	Development of Air Transport in Favour of Logistic Parks in the Region of Kosice
Vargová Eva	Ecological Aspects of Operating Radionavigation Systems
Vargušová Patrícia	Using New Tools to Communicate With Customers Airports and Airlines
Vereb Ján	Procedures for Checking the Material Transported by Air
Vilková Daniela	E-Marketing on Air Services
Zakuťanská Ivana	A Safe Aviation Company in a Dangerous World
Žoffčáková Miroslava	Effects of Low-Cost Airlines on Aviation

**PhD. THESES**

NAME OF STUDENT	NAME OF THESIS
Rozenberg Róbert	Increasing Safety of Formation Flying in an Aerobatic Team

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## 40th ANNIVERSARY OF UNIVERSITY AVIATION EDUCATION IN KOSICE



*Per aspera ad astra*

On 4 September 2013 the ceremony meeting took place in which we commemorated the 40th anniversary of university aviation education in Kosice and the establishment a major university education institution of Kosice – the Military Aviation University of the Slovak National Uprising (SNU) in Kosice which was preparing aeronautical engineers, pilots and technical personnel not only for Czechoslovakia and surrounding European countries but also for the partners in America, Africa and Asia.

Its main role at the beginning, as a centre of military aviation training, was to prepare primarily the military aircrew. Significant results were also achieved in the field of science and research. During its existence, it consolidated and spread the reputation of the world famous „Kosice aviation school“ which was attended by a total of more than 4300 graduates. Excellent military pilots who are still flying today in civil aviation, graduated there. It is undisputed that regarding to the existence of the Military Aviation University of SNU and its successors Kosice has been talked about as the „aviation city“ with strong aviation tradition. It was created by a whole generation of aviation enthusiasts - pilots, specialists, teachers and students who acted and are still acting in Kosice.

