TECHNICAL UNIVERSITY OF KOSICE

FACULTY OF AERONAUTICS

SLOVAK REPUBLIC

ANNUAL REPORT

2016

SLOVAK REPUBLIC
TECHNICAL UNIVERSITY OF KOSICE
FACULTY OF AERONAUTICS

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CONTENTS

PREFACE

The Faculty of Aeronautics is a successor of the Air Force Academy of Gen. Milan Rastislav Štefánik in Košice, which was a prestigious educational institution in Europe and in the world providing university education for pilots and air operating personnel since 1973. The Faculty of Aeronautics focuses on long-lasting co-operation with many important civil and also military universities, scientific and research departments and with aviation companies in Slovakia and abroad.

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. The Faculty provides university level education in all three degrees of accredited study programs (6 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 with 62 scientific-pedagogical staff of these are 9 professors, 14 associate professors, 36 assistant professors and 3 research assistants providing education for more than 745 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.

After the completion of the projects 7 RP EU and the projects from the EU's structural funds, we have increased the initiative in handling new projects with the term started in 2017. In the context of the published calls, the requests have been made for funding 3 VEGA projects and 4 KEGA projects. The documents have been processed to submit applications for funding 6 projects in the framework of the call "Support for industrial research and development centres in the areas of specialization of RIS3 SK in order to increase private investment through the cooperation of research institutions and the business community". In cooperation with partners from the practice we were involved in the processing and submission of funding applications of 3 projects under the call "Support of long-term strategic research and development in the areas of specialization of RIS3 SK in order to increase private investment through the cooperation of research institutions and the business community".

Basic research was focused on the relation existing between the structures and characteristics of nano-crystalline complexes of oxides produced by mechano-chemical methods. The research was also oriented on the characteristics of amorphous ferromagnetic materials and on materials at low temperatures. Last but not least, we have also covered the fields of air transport management and aviation environment. The remarkable results of the research in the field of aviation have been published in the Acta Avionica, a reviewed scientific journal of our Faculty of Aeronautics.

The basic tasks of the Faculty of Aeronautics include new international partnerships, and in particular to create opportunity for the implementation of relevant international projects on the land of 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. The international mobilities of employees and students for development of the scientific co-operation are mainly realized within the project Erasmus and within

particular projects. The Faculty of Aeronautics has signed agreements of reciprocal co-operation with foreign institutions and organizations, as e.g. Czech Technical University in Prague – Faculty of Transportation Sciences, University of West Bohemia in Plzen, West Avionics Luftfahrelektronik GmbH (Germany), College of Enterprise and Administration in Lublin (Poland), The State School of Higher Education in Chelm (Poland), Polish Air Force Academy in Deblin (Poland), National Defence University Poland, Silesian University of Technology, Gliwice (Poland), National Aerospace University Kharkiv Aviation Institute (Ukraine), Technical University of Liberec, University of Defence in Brno, University of Pardubice, VŠB Technical University of Ostrava, University College of Business in Prague, Vasil Levski National Military University (Bulgaria), Eesti Lennuakadeemia, Tartu (Estonia), Universtiy of Dubrovnik (Croatia), Kocaeli university (Turkey), Erzincan University (Turkey).

The Faculty of Aeronautics annually organizes major international scientific conferences and in the year 2016 it was the 12th year of the scientific conference “New Trends in the Aviation Development” covering a wide range of aviation issues and The 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers.

On the initiative of departments three specialized events had been realized: a meeting of teachers and students of Faculty of Aeronautics with practitioners during a technical seminar organized by the Flight Preparation Department “Airspace for All”, a workshop of the Department of Air Transport Management “Management of Airlines” and a scientific conference “Sensorics and Magnetometry” organized by the Department of Aviation Technical Studies and Slovak Magnetic Society – ZSVTS.

The Faculty of Aeronautics in the most recent year 2016 was in the building of external relations, contacts and cooperation with life practice focused on priority subjects of the three areas: 1. universities and high/secondary schools - the main aim was to raise young people´s interest in flying, aviation and aeronautical study on the issue of the Faculty of Aeronautics, 2. aviation organizations / companies - to ensure the possibilities and practice of students´ of the Faculty of Aeronautics and cooperation in education and scientific research activities, 3. entities linked to the space technologies and cosmonautics.

Among the most important development activities resulting from the multiannual preparatory activities in the year 2016 are included:

The advent of the first student-cadets of the Armed Forces Academy of General Milan Rastislav Stefanik on university studies at the Faculty of Aeronautics, Technical University from the academic year 2016/2017,

The advent of foreign students to study in the engineering study program Aircraft Operation in English for applicants from India. This is a pilot project and our faculty would like to represent in the world and confirm our readiness for its development in the future,

Obtaining accreditation of the European Federation of National Engineering Associations (FEANI - Fédération Internationale d'Ingénieurs) for the Faculty of Aeronautics TUKE,

Extending of the Forensic Institute at the Technical university of Košice - complemented by the field 040000 Air Transport - with the specific place of expert activities: Faculty of Aeronautics, Rampová 7, 041 21 Košice.

Based on the current conditions of the development of the Faculty of Aeronautics and the results of its comprehensive accreditation, the priority areas which need attention in the coming period, include: position of the faculty within the Technical university of Košice, an acceptance of the faculty abroad - compatibility with airlines academic organizations and legislative coverage of the Faculty of Aeronautics in space activities. The main activity, which should contribute to solve these plans, is the implemented proposal to complement the Study fields of Slovak Republic with a new field of study - Aerospace Engineering.

Dear colleagues, thank you very much to all of you who had in the past year 2016 actively joined the pursuit of the tasks. The Faculty of Aeronautics has confirmed its status of aviation educational and scientific-research organization that brings together highly qualified specialists, as well as the position of a reliable partner in the education and practice.

Yours Sincerely *prof. Ing. František Adamčík, PhD.*

CONTACTS

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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 fact, the origin and roots of the two faculties go back to the 18th century and they are derived from the Mining Academy in Banská Stiavnica. The University is a state-supported institution. At present, the University consists of nine faculties. It has about 10 000 students and 900 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: frantisek.adamcik@tuke.sk

Vice-dean for science and research: doc. RNDr. Eva KOMOVÁ, PhD.
e-mail: eva.komova@tuke.sk

Vice-dean for education: Ing. Peter KAĽAVSKÝ, PhD.
e-mail: peter.kalavsky@tuke.sk

Vice-dean for development: doc. Ing. Pavol KURDEL, PhD.
e-mail: pavol.kurdel@tuke.sk

Secretary of the Faculty: Ing. Jozef DRABIŠČÁK
e-mail: ivan.gallo@tuke.sk Ing. Ivan GALLO (delegated authority since 8-2016)

Chairman of academic senate: Ing. Juraj VAGNER, PhD.
e-mail: juraj.vagner@tuke.sk

DEPARTMENTS OF FACULTY AND THEIR HEADS

Department of Aerodynamics and Simulations
RNDr. Viera MISLIVCOVÁ, PhD.
RNDr. Kristína BUDAJOVÁ, PhD. - since 12-2016
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.
doc. Ing. Václav MOUCHA, CSc. - since 12-2016
kltp.lf@tuke.sk

Department of Flight Training
Ing. Róbert ROZENBERG, PhD.
klp.lf@tuke.sk

Department of Aviation Engineering
Ing. Marián HOCKO, PhD.
kli.lf@tuke.sk

Department of Air Transport Management
Ing. Peter KOŠČÁK, PhD.
kmlp.lf@tuke.sk

SCIENTIFIC BOARD

Chair: prof. Ing. František ADAMČÍK, PhD.

Vice - chair: doc. RNDr. Eva KOMOVÁ, PhD.

Internal members:

Ing. Peter KAĽAVSKÝ, 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., mimoriadny profesor
doc. Ing. Slavomír KIŠ, PhD.
doc. Ing. Ján LABUN, PhD., mimoriadny profesor
doc. Ing. Ján PIĽA, PhD.
doc. RSDr. Ján POPRENDA, PhD. / prof. Ing. Pavel PULIŠ, CSc. (since 3-2016)
doc. Ing. Dušan PRASLIČKA, PhD. / doc. Ing. Václav MOUCHA, CSc. (since 9-2016)
Dr.h.c. doc. Ing. Stanislav SZABO, PhD., MBA, LL.M
doc. RNDr. Ladislav TOMČO, PhD.
doc. Ing. Rudolf ZAHRADNÍČEK, PhD.

External members:

dr hab. inż. Marek GRZEGORZEWSKI
Polish Air Force Academy in Dęblin, Poland

dr hab. inż. Jarosław KOZUBA
Polish Air Force Academy in Dęblin, Poland

Dr. h. c. prof. Ing. Miroslav LÍŠKA, PhD.
Armed Forces Academy of GMRŠ, Slovakia

doc. Ing. Jiří POLANSKÝ, PhD.
University of Leeds, Faculty of Engineering

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

prof. Ing. Josef BLAŽEK, PhD.
The University of Security Management in Košice

Secretary: Ing. Martina MELICHEROVÁ
Ing. Jarmila FERENČÍKOVÁ, PhD. (since 11-2016)

ACADEMIC SENATE

Chair: Ing. Juraj VAGNER, PhD.

Vice-chairs: Ing. Peter KOŠČÁK, PhD.
Ing. Tomáš PUŠKÁŠ

Members: doc. Ing. Róbert BRÉDA PhD.
Ing. Peter ČEKAN, PhD.
Ing. Radoslav ŠULEJ, PhD.
doc. Ing. Ján LABUN, PhD., mimoriadny profesor
prof. Ing. Jozef POVAŢAN, CSc.
Ing. Karol SEMRÁD, PhD.
Bc. Simona BABICOVÁ
Marcel FARKAŠ
Bc. Filip KVAČKAJ

Members of Academic Senate TUKE
PhDr. Anna ČEKANOVÁ, PhD.
Ing. Juraj VAGNER, PhD.
Ing. Viktor BALAŠČÍK

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

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	3772	Transport
	Bc.	Professional Pilot	3772	Transport
	Bc.	Air Traffic Controller	3772	Transport
	Bc.	Aircraft Operation	2353	Motor vehicles, rail vehicles, ships and airplanes
	Bc.	Avionics Systems	2613	Electronics
2.	Ing.	Air Transport Management	3772	Transport
	Ing.	Aircraft Operation	2353	Motor vehicles, rail vehicles, ships and airplanes
	Ing.	Sensorics and Avionics Systems	2613	Electronic
3.	PhD.	Air Transport Management	3772	Transport
	PhD.	Aircraft Operation	2353	Motor vehicles, rail vehicles, ships and airplanes
	PhD.	Aviation and Industrial Electronics Systems	2613	Electronics

CREDIT-BASED SYSTEM

STATISTICS

Present number of faculty staff members is 91 including 9 professors, 14 associate professors, 36 assistant professors, 3 research workers, 29 administrative staff and technicians.

Number of students

The number of BSc. students is 428, number of MSc. students is 267 and number of PhD. students is 38.

STUDY LEVEL	Full-time students	External students	Total
Bachelor	389	49	438
Engineer	222	45	267
Doctoral	19	19	38
			743

DEPARTMENT OF AERODYNAMICS AND SIMULATION

Contact

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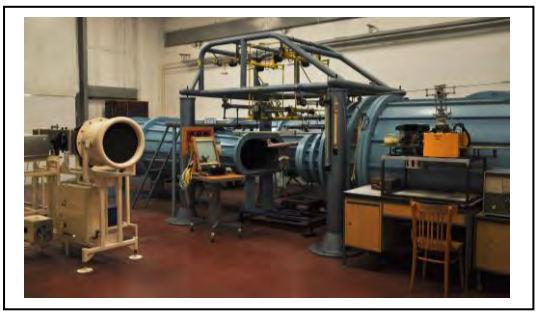
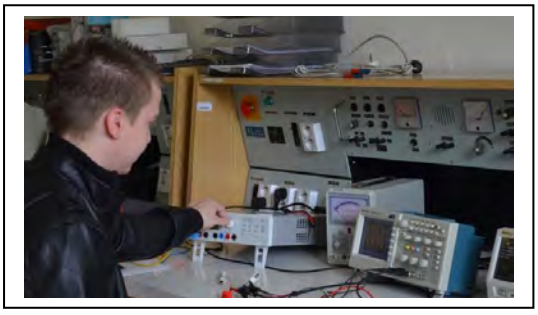
web page: http://web.tuke.sk/lf-kas
Phone No.: +421 55 602 6132

Head of Department:
RNDr. Viera MISLIVCOVÁ, PhD.
RNDr. Kristína BUDAJOVÁ, PhD. - since 12-2016
E-mail: kristina.budajova@tuke.sk
Phone No.: +421 55 602 6127





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 aviation 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 nanocrystallic ferroalloys, studying the physical properties of systems consisting of fine magnetic particles in their content, 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., mimoriadny profesor
Associate Professors:	doc. RNDr. Eva KOMOVÁ, PhD.
	doc. Ing. Dušan NEŠTRÁK, CSc.
	doc. RNDr. Ladislav TOMĈO, PhD.
Assistant Professors:	RNDr. Kristína BUDAJOVÁ, PhD.
	Ing. Jozef GALANDA, PhD.
	Ing. Peter GAŠPAROVIĈ, PhD.
	RNDr. Viera MISLIVCOVÁ, CSc.
	RNDr. Peter SZABÓ, PhD.
	Ing. Radoslav ŠULEJ, PhD.
	RNDr. Katarína TIBENSKÁ, PhD.
Secretary:	Zuzana NIŢNÍKOVÁ

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. doc. RNDr. Ondrej Hudák, DrSc., mimoriadny profesor
Mathematics 2	RNDr. Viera Mislivcová, PhD. doc. RNDr. Ondrej Hudák, DrSc., mimoriadny profesor
Seminar in Mathematics 1	doc. RNDr. Ondrej Hudák, DrSc., mimoriadny profesor RNDr. Eva Baranová – Ext. Lect.
Seminar in Mathematics 2	doc. RNDr. Ondrej Hudák, DrSc, mimoriadny profesor RNDr. Eva Baranová – Ext. Lect.
Physics	doc. RNDr. Ladislav Tomĉo, PhD.

Seminar in Physics 1	doc. RNDr. Ladislav Tomĉo, PhD. Ing. Zuzana Mitróová, PhD. - Ext. Lect. RNDr. Natália Tomašovičová, CSc. - Ext. Lect.
Seminar in Physics 2	doc. RNDr. Ladislav Tomĉo, PhD. Mgr. Jana Gamcová - Ext. Lect.
Physics 1	doc. RNDr. Ladislav Tomĉo, PhD. doc. RNDr. Eva Komová, PhD.
Physics 2	doc. RNDr. Ladislav Tomĉo, PhD. doc. RNDr. Eva Komová, PhD.
Fundamentals of Informatics 1	Ing. Radoslav Šulej, PhD.
Fundamentals of Informatics	Ing. Radoslav Šulej, PhD.
Fundamentals of Informatics II	Ing. Radoslav Šulej, PhD.
Fundamentals of programming	Ing. Radoslav Šulej, PhD.
Information Technology and Management	RNDr. Peter Szabó, PhD. Ing. Jozef Galanda, PhD.
Information System Security	Ing. Jozef Galanda, 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 Gašparoviĉ, PhD.
Propellers	Ing. Peter Gašparoviĉ, PhD.

Graduate Study (Ing.)

Subject	**Name of Lecturer**
Aerodynamics and Fligh Dynamics of Aircraft	Ing. Peter Gašparoviĉ, PhD.
Applied Mathematics	RNDr. Kristína Budajová, PhD.
Numerical Mathematics	RNDr. Kristína Budajová, PhD.
Information Technology in Air Transport	Ing. Radoslav Šulej, PhD. Ing. Martin Jezný, PhD. - Ext. Lect.

Postgraduate Study (PhD.)

Subject	**Name of Lecturer**
The Selected Chapters of Mathematics	RNDr. Kristína Budajová, PhD

RESEARCH PROJECT

- APVV-0027-11: Domain-wall dynamics in thin magnetic microwires, Eva Komová (investigator)
- APVV-15-0527: New generation of departure control system for a airports, Jozef Galanda, Radoslav Šulej (investigators)
- KEGA081TUKE-4/2015: Measurements of physical and technical quantities for aeronautical study programs, Eva Komová (head), Kristína Budajová, Katarína Tibenská, Ladislav Tomĉo (investigators)
- VEGA 1/0060/13: Formation and stability of magnetic properties of glass coated microwires, Eva Komová (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 2/0045/13: Sensitivity of liquid crystals containing nanoparticles to external magnetic field, Ladislav Tomĉo (investigator)
- VEGA 1/0311/15: Analysis of electro-physical changes of progressive electro-technical insulation materials under the influence of external degradingly factors. , Ladislav Tomĉo (investigator)

CO-OPERATION

Co-operation in the Slovak Republic

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

International Co-operation

- Institute of Molecular Physics, Polish Academy of Science, Poznan
- 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, USA - Ing.Peter Gašparoviĉ, PhD.
- Fédération Aéronautique Internationale, Switzerland - Ing. Peter Gašparoviĉ, 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 Tomĉo, PhD.
- Slovak Magnetical Society - doc. RNDr. Eva Komová, PhD., doc. RNDr. Ladislav Tomĉo, PhD.
- Scientific Board of Faculty of Aeronautics - doc. RNDr. Eva Komová, PhD., doc. RNDr. Ladislav Tomĉo, PhD.

OTHER ACTIVITIES

Project for Industry Companies

- Long term collaboration with the company 2J s.r.o. on the measurement and computation of aerodynamic load on antennae.
  Ing. Peter Gašparoviĉ, PhD. (investigator)

GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	11	7	0

Bachelor'sTheses:

NAME OF STUDENT	NAME OF THESIS
Matúš Andrišov	Flight path modeling by OpenFOAM
Miroslava Ferencová	Basic principles of OpenFOAM
Nikoleta Csatlósová	Digital education
Zoltán Kónya	Creator of seats maps selected regional airlane air carriers
Tomáš Kadoun	Design of aircraft seat maps selected regional air carriers
Branislav Zubiĉ	Algorithmization and programming selected airport processes
Lucia Kleinová	Aircraft seatmaps database of selected airlines
Matúš Baĉa	Using of HTML5 in modern websites of the airlines
Jarmila Sabatová	Modern trends in airport self checkin services
Jakub Seliga	Security policy in Windows - elearning
Adam Tabaĉko	Online system for visualization of seat layout and allocation seats for passenger inside a passenger aircraft

Master's Theses:

NAME OF STUDENT	NAME OF THESIS
Tomáš Paciga	Flow field above flat roof for positioning of wind turbine
Šlávka Miroslav	The manager of the aviation company and Internet
Michal Lofaj	Information portal of New trends in aviation development conference
Viliam Kapraľ	Online information system of self-assessment of teachers and researchers of Faculty of aeronautics
Miroslava Striĉková	Information system for supporting of modelling, analysis and optimization of airport processes
Soŋa Fabiánová	International aviation organizations and organizations in Slovak Republic acting in civil aviation field – Distance education
Katarína Gajdošová	Software accessories for aviation manager (mobile phones, PDAs and smartphones) – Distance education
Andrea Gulová	The economic analysis of aircraft technical systems
Jaroslav Kriţan	Analysis of prognosticate aircraft systems failures
Rastislav Melicher	Implementation process of integrated enterprise management system

PUBLICATIONS

Journals

- Cross-tunneling and phonon bottleneck effects in the relaxation phenomena of XY pyrochlore antiferromagnet Er2Ti2O7 / M. Orendáĉ ... [et al.] - 2016. In: Physical Review B. Vol. 93, no. 2 (2016), p. 024410-1-024410-9. - ISSN 2469-9950 [ORENDÁĈ, M. - TIBENSKÁ, Katarína - STREĈKA, J - ĈISÁROVÁ, J - TKÁĈ, V - ORENDÁĈOVÁ, A. - ĈIŢMÁR, E - PROKLEŠKA, J - SECHOVSKÝ, V]

- Magnetic relaxation in Zn(PO3)2·Er(PO3)3 glass / M. Orendáĉ ... [et al.] - 2016. In: Journal of Magnetism and Magnetic Materials. Vol. 412 (2016), p. 83-88. - ISSN 0304-8853
  [ORENDÁĈ, M. - TIBENSKÁ, Katarína - ĈIŢMÁR, E - TKÁĈ, V - ORENDÁĈOVÁ, A - HOLUBOVÁ, J - ĈERNOŠEK, Z - ĈERNOŠKOVÁ, E]
- Virtual concept of a symbiotic environment for CBL and CBT methods based education in aircraft system / Jozef Galanda, Radoslav Šulej, Martin Jezný - 2016. In: Nase More. Vol. 63, no. 3 (2016), p. 244- 248. - ISSN 0469-6255
  [GALANDA, Jozef - ŠULEJ, Radoslav - JEZNÝ, Martin]
- Modern Trends in Airport Self Check-in Kiosks / Jarmila Sabatová ... [et al.] - 2016. In: MAD - Magazine of Aviation Development. Vol. 4, no. 20 (2016), p. 10-15. - ISSN 1805-7578
  [SABATOVÁ, Jarmila - GALANDA, Jozef - ADAMĈÍK, František - JEZNÝ, Martin - ŠULEJ, Radoslav]
- New technologies in aircraft maintenance versus safety / Ján Piľa, Jarosław Kozuba, Radoslav Šulej - 2016. In: Zarzadzanie bezpieczenstwem panstwa - wyzwania i ryzyka. - Warszawa : NWP, 2016 P. 553-563. - ISBN 978-83-7726-117-0
  [PIĽA, Ján - KOZUBA, Jarosław - ŠULEJ, Radoslav]
- MATH: A Scientific Tool for Numerical Methods Calculation and Visualization / Henrich Glaser-Opitz, Kristína Budajová - 2016. In: Journal of Open Research Software. Vol. 4, no. 1 (2016), p. 1-5. - ISSN 2049-9647 Spôsob prístupu: http://openresearchsoftware.metajnl.com/articles/10.5334/jors.55/...
  [GLASER-OPITZ, Henrich - BUDAJOVÁ, Kristína]
- THE MATH – open source application for easier learning of numerical mathematics / Henrich Glaser-Opitz, Kristína Budajová - 2016. In: Acta Didactica Napocensia. Vol. 9, no. 1 (2016), p. 1-6. - ISSN 2065-1430 Spôsob prístupu: http://adn.teaching.ro/article_9_1_5.pdf...
  [GLASER-OPITZ, Henrich - BUDAJOVÁ, Kristína]

Other Publications

PUBLICATION TYPE	CONFERENCE PROCEEDINGS		OTHER
Number	Foreign	Home	3
	2	8	

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...).
- Courses of Mathematics (20 hours) and Physics (20 hours). Students will refresh their secondary school knowledge.
- Online courses: Algorithms and Programming (for the second and third level). Mathematical models in aeronautics (for the second level).
- Presentations about Faculty of Aeronautics study possibilities for secondaryschools.
- Analysis of dielectric, magnetic and superconductive properties of materials analyticaly /models/ and numericaly /FlexPDE/.
- Physical models of properties of materials for transport.

DEPARTMENT OF AVIONICS

Contact

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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 aftermerging Air Force Academy of M.R Štefánik with Technical university of Kosice.

EDUCATION - RELATED ACTIVITIES

Department of Avionics guarantees and provides universityeducation:
- 1st stage of universityeducation - Bachelor program for Avionic Systems (field of study 2613 Electronics)
- 2nd stage of universityeducation - engineering study program for Sensor and Avionic Systems (field of study 2613 Electronics)
- In the third stage of universityeducation - the doctoral program for Aircraft and Industrial Electronic Systems (field of study 2613 Electronics)

The Department of Avionics is involved in teaching courses in the undergraduate study programs: Air traffic control, Professional pilot, Air transport management and Aircraft operations.

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.

Department of Avionics guarantees and performs conversion courses for pilots and engineers from aircrafts' practical parts in 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.
	doc. Ing. Ján LABUN, PhD., mim.profesor
Associate Professors:	doc. Ing. Rudolf ANDOGA, PhD.
	doc. Ing. Róbert BRÉDA, PhD.
	doc. Ing. Pavol KURDEL, PhD.
Assistant Professors:	Ing. František ADAMČÍK, PhD.
	Ing. Marek ČEŠKOVIČ, PhD.
	Ing. Ján KABÁT, PhD.
	Ing.Vladimír VLASÁK, CSc.
	Ing. Ján ZBOJOVSKÝ, PhD.
Technical Staff:	Oľga KIZEKOVÁ
	Jaroslav PAROULEK
PhD. Students:	Ing. Henrich GLASER – OPITZ
	Ing. Ján HRABOVSKÝ
	Ing.Tomáš MORAVEC
	Ing. Gabriel KALAPOŠ
	Ing. Martin KRCHŇÁK
	Ing. Marián MIĽO
	Ing. Tomáš VAISPACHER
	Ing. Martin ČATLOŠ
	Ing. Miroslav GOLIAŠ

RESEARCH AND DEVELOPMENT ACTIVITIES

The Department conducts research and development activities especially in the selected areas of avionics - flight instrument systems, electrical systems of aircraft, radio and radio-aircraft systems, special onboard aircraft systems, in the selected areas of processing and transmission of signals, accuracy and durability of radio electronic systems to interference, traffic, design and technical diagnostics of radio communication systems and visual flight control 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 modeling of aircraft characteristics and onboard electronic systems,
- use of aircraft radar altimeters for flight safety improvement,
- aircraft electromagnetic compatibility,
- satellite and inertial navigation systems integration,

- control of complex thermodynamic processes when exposed to high pressure and temperature.

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 instruments 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's generators and electromotors, measuring components of onboard electrical networks. 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 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 radio and radio technical devices. Software laboratory equipment enables to model and simulate radiation characteristics of aircraft, helicopters, antennas and also other objects if necessary.

- **Specialized classroom**

The classroom is intended for practical courses using tools for modeling and simulation of aircraft dynamical movement, aircraft cybernetic systems and avionics systems in Matlab/Simulink programming environment. The classroom also offers virtual connection with the 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.

Each class is equipped with multimedia and presentation didactic technologies, including multimedia software modules for computer based education and video projection.

TEACHING

Undergraduate Study (Bc.)

Subject	Name of Lecturer
Avionic systems	Ing. Ján. Kabát, PhD.
Avionic systems	doc. Ing. Róbert Bréda, PhD.
Avionic systems	doc. Ing. Ján Labun, PhD., mim.profesor
Avionics I	doc. Ing. Róbert Bréda, PhD.
Avionics II.	doc. Ing. Rudolf Andoga, PhD.
Avionic Systems of Aircraft	doc. Ing. Rudolf Andoga, PhD.
Aeronautical information radio systems	doc. Ing. JánLabun, PhD., mim.profesor
Semestral project	Ing. František Adamčík, PhD.
Instrument systems I	doc. Ing. Róbert Bréda, PhD. Ing. Vladimír Vlasák, CSc.
Instrument systems II	doc. Ing. Róbert Bréda, PhD. Ing. Vladimír Vlasák, CSc.
Navigation systems I	doc. Ing. Pavol Kurdel, PhD.
Air traffic management in information systems I	doc. Ing. Ján Labun, PhD., mim.profesor
Aircraft electrical systems I	Ing. Ján. Kabát, PhD. Ing. Ján Zbojovský, PhD.
Aircraft electrical systems II	Ing. Ján. Kabát, PhD. Ing. Ján Zbojovský, PhD.
Aeronautical radio engineering systems	Ing. Marek Češkovič, PhD.
Radio communications systems aircraft	doc. Ing. Ján Labun, PhD., mim.profesor
Aircraft digital technologies	Ing. Marek Češkovič, PhD. Ing. Ján Zbojovský, PhD.
Maintenance procedures II.	Ing. Marek Češkovič, PhD.
Automatic aircraft control systems	doc. Ing. Rudolf Andoga, PhD. Ing. Ján Hrabovský
Onboard systems management	doc. Ing. Rudolf Andoga, PhD.
Radio navigation systems of aircraft	doc. Ing. Pavol Kurdel, PhD.
Bachelor thesis	doc. Ing. Róbert Bréda, PhD.
Cosmic technologies II	Ing. František Adamčík, PhD.
Applied Opto-electronics	doc. Ing. Róbert Bréda, PhD.

Graduate Study (Ing.)

Subject	NameofLecturer
Aircraft microwave and antenna technology	doc. Ing. Ján Labun, PhD., mim.profesor
Aircraft communication systems	doc. Ing. Ján Labun, PhD., mim.profesor
Aircraft automated control systems	doc. Ing. Rudolf Andoga, PhD.
Aircraft radiotechnical systems	Ing. Marek Češkovič, PhD.
Aircraft electrical systems III	Ing. Ján. Kabát, PhD. Ing. Ján Zbojovský, PhD.
Cyber aircraft systems	doc. Ing. Rudolf Andoga, PhD. Ing. Ján Hrabovský
Integrated navigation systems	doc. Ing. Róbert Bréda, PhD. Ing. Tomáš Vaispacher
Semester project avionics I	doc. Ing. Róbert Bréda, PhD.
Semester project avionics II	doc. Ing. Róbert Bréda, PhD.
Avionic Systems of Aircraft	Ing. Ján. Kabát, PhD.
Modeling of avionics systems	doc. Ing. Rudolf Andoga, PhD. Ing. Tomáš Moravec
Air traffic management in information systems II	Ing. Marek Češkovič, PhD.

Navigation systems II	doc. Ing. Pavol Kurdel, PhD. Ing. Martin Krchňák
Diagnostics and reliability	Ing. Ján. Kabát, PhD.
Diploma thesis	doc. Ing. Ján Labun, PhD., mim.profesor
Design of avionics systems	doc. Ing. Pavol Kurdel, PhD. Ing. František Adamčík, PhD.

Postgraduate Study (PhD.)

Subject	NameofLecturer
Subject of theoretical fundament I	prof. Ing. František Adamčík, CSc.
Subject of theoretical fundament II	doc. Ing. Jozef Hudák, CSc., mim. profesor
Subject of specialization I	doc. Ing. Ján Labun, PhD., mim.profesor
Subject of specialization I	doc. Ing. Rudolf Andoga, PhD.
Subject of specialization I	doc. Ing. Róbert Bréda, PhD.
Technical English	PhDr. Anna Čekanová, PhD.

RESEARCH PROJECTS

Title of the project: Digitalization, virtualization and testing of a small turbojet engine and its elements using stands for modern applied lecturing
Type of the project: KEGA
Number of the project: 014TUKE-4/2015
Principal's Investigator Deputy: doc. Ing. Rudolf Andoga, PhD.
Time period of the project: 2015– 2017
Annotation of the project: The project is oriented on application of modern digital technologies of complex system control in education. The basic aim is the transfer of knowledge, methods and data obtained in control and operation of a small turbojet engine into the process of education using virtualization tools. The project is oriented on practical evaluation of theoretical knowledge of students from the areas of real-time data acquisition, modeling, control and diagnostics of complex systems and realization of intelligent algorithms of machine learning in application on laboratory objects in the form of small turbojet engines and its elements.

CO-OPERATION

Co-operation in the Slovak Republic
- Transport Authority - Air Navigation Services of Slovak Republic
- Faculty of Electrotechnics and Informatics TUKE
- AirberlinTechnik GmbH, Košice
- SNA Flight school – BIDOVCE
- TOMARK, s.r.o.,Prešov
- Aircraft Servicing Trenčín, a.s.
- Air Force Command OS SR
- STM – Aviation Museum, Airport K o š i c e
- International Airport Kosice
- SOSA - Slovak Organisation for Space Activities, Bratislava
- Air Transport Europe, s.r.o., Poprad
- LOTN Trenčín
- Stredná odborná škola letecko-technická Trenčín
- Armed Forces Academy of general M. R. Štefánik, LiptovskýMikuláš

- Techniserv, s.r.o. Bratislava
- Flight Operation Services SR
- SOVA Digital, Bratislava
- Aeroengineers International s.r.o Bratislava
- INCOFF, s. r. o., Nábreţ ná 8, NovéZámky

International Co-operation
- Department of Aircraft Electrical Systems, University of Defence, Brno
- Department of Measurements, Electrotechnical Faculty, CTU Prague
- Institute of air transport, Faculty of Engineering-Institute of transport, TU of Ostrava
- Polish Air Force Academy, Deblin, Poland
- Óbuda University, Budapešt, Hungary
- Taganrog State University of Radioengineering
- Honeywell International, Brno

Membership in International Organizations and Societies
prof. Ing. František Adamčík, CSc.
- member of Editorial boards of the scientific journals - AVIATION - Technical University, Vilnius, Litva; ZESZITY NAUKOVE – Wyższa Szkoła Oficerska Sił Powietrznych, Dęblin, Poland; ADVANCES IN MILITARY TECHNOLOGY - UO Brno, the Czech Republic; OUR SEA - International Journal of Maritime Science &Technology, Dubrovnik, Croatia

doc. Ing. Rudolf Andoga, PhD.
- senior member of American Institute of Aeronautics and Astronautics, USA
- member of the Editorial board of ActaPolytechnicaHungarica Journal, Hungary

OTHER ACTIVITIES

The department was involved in organization of CINTI 2016, the 17th IEEE International Symposium on Computational Intelligence and Informatics, November 17-19, 2016, Budapest, doc. Ing. Rudolf Andoga was the technical program committee chair.

The department was involved in organization of INES 2016, the 20th Jubilee IEEE International Conference on Intelligent Engineering Systems, June 30- July 2, 2016, Budapest, doc. Ing. Rudolf Andoga was the technical program committee chair.

Department of Avionics organized the conference:
The XII. International Conference New Trends in Aviation Development2016 will be held in September 8th - 9th 2016 where one of conference supervisors was doc. Ing. Ján Labun, PhD., doc. Ing.Pavol Kurdel, PhD.

5th International scientific conference of PH.D.students and young scientists and researchers on May 12-13, 2016 in Košice, where one of conference supervisors was prof. Ing. Tobiáš LAZAR, DrSc., doc. Ing. Ján Labun, PhD., doc. Ing. Pavol Kurdel, PhD., doc. Ing. Róbert Bréda, PhD.

The Department of Avionics was visited with a lecture of Ing. Ján Buršík, PhD. and Ing. Marián Mikláš from the flight operational services department of SR.Actionprovide: doc.Ing. Ján Labun, PhD., Ing. František Adamčík, PhD.

The Department of Avionics organized excursions in the Museum of aviation in Košice for the students of the first and second year of bachelor degree studies. Actionprovide: Ing. Ján Kabát, PhD., Ing. Ján Zbojovský, PhD.

Using coordinative and financial support of the Center of scientific-technical information of SR, a special excursion to the Airport of Košice was realized within the Center of scientific-technical information SR.Actionprovide: doc. Ing. Ján Labun, PhD., Ing. Marek Ĉeškoviĉ, PhD., Ing. Ján Zbojovský, PhD.

GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	13	11	1

BACHELOR´S THESES

NAME OF STUDENT	NAME OF THESIS
ĈEREPÁN Lukáš	NexGen air traffic management system
FIĽKO Martin	ArduPilot
HRIŊÁK Michal	Influence of parameters of aircraft antennas on the quality of the connection
JURIŠTA Richard	Measurement of flight parameters (angular rate)
MAJERÍK Martin	The technical aspect of the education system ILS
MARCIN Pavol	Technological procedures form processing of magnetic microwires for sensorics
MEGYESI Dávid	Measurement of flight parameters (linear acceleration)
MIHALÍK Marek	Effect of wind on aircraft landing maneuver
MIŠIN Patrik	Radio-systems in the process of improving security at small airports
NOVOTŃÁK Jozef	Characteristics measurement of aircraft model engine
ONOFREJ Filip	Aircraft state monitoring systems
ŠEMEGA Samuel	Analysis of automatic control systems of modern passenger aircraft produced by Boeing company
VAŠKOVIĈ Jakub	The technology of the new navigation system eLoran

MASTER'S THESES

NAME OF STUDENT	NAME OF THESIS
Bc. BENKO Martin	Identification of quality ergatic aviation system
Bc. GNIPOVÁ Jaroslava	Circuit impedance adaption aircraft HF antennas
Bc. HEŠKO František	Design and implementation of aircraft aerometrical system
Bc. HUĈKO Mário	Design of telemetric system for data transfer between ground station and UAV
Bc. KNAPPELOVÁ Lucia	Electromagnetic compatibility on board the aircraft
Bc. MAJERĈÍK Zdenko	Control systems of small unmanned airplanes
Bc. MORAVEC Tomáš	Virtualization of modern aircraft avionics systems
Bc. MURNÍKOVÁ Michaela	The circumferential solution air VHF radios
Bc. OLACH Marek	The resonant properties of aircraft ground-plane antenna
Bc. TAKÁĈ Tomáš	Determination deterministic parameters inertial sensors using the calibration
Bc. VOJÁĈEK Jozef	Aircraft navigation complexes

DOCTORAL 'S THESES

NAME OF STUDENT	NAME OF THESIS
Ing. Henrich Glaser – Opitz, PhD.	Predictionmethodforaircraftlandingsystem

PUBLICATIONS

Books, textbooks

1. Vladimír Vlasák – Marek Ĉeškoviĉ : Charakteristiky leteckej techniky - 1. vyd. - Košice : TU, LF - 2016. - 71 s. - ISBN 978-80-553-2225-4.

Journals

1. ANDOGA, Rudolf - ADAMĈÍK, František ml. - HRABOVSKÝ, Ján - VAISPACHER, Tomáš: A hybrid diagnostic system for a small turbojet engine. In: Nase More. Vol. 63, no. 3 (2016), p. 86-92. - ISSN 0469-6255.
2. KOZÁR, Jozef - ĎURĈO, Stanislav - ADAMĈÍK, František: Geometric dilution of precision of the GNSS for Mars (GNSS FATIMA). In: Aviation. Vol. 20, no. 4 (2016), p. 183-190. - ISSN 1648-7788.
3. GLASER-OPITZ, Henrich - BUDAJOVÁ, Kristína: MATH: A Scientific Tool for Numerical Methods Calculation and Visualization. In: Journal of Open Research Software. Vol. 4, no. 1 (2016), p. 1-5. - ISSN 2049-9647.
4. GLASER-OPITZ, Henrich - BUDAJOVÁ, Kristína: The MATH – open source application for easier learning of numerical mathematics.In: ActaDidacticaNapocensia. Vol. 9, no. 1 (2016), p. 1-6. - ISSN 2065-1430.
5. SABATOVÁ, Jarmila - GALANDA, Jozef - ADAMĈÍK, František - JEZNÝ, Martin - ŠULEJ, Radoslav: Modern Trends in Airport Self Check-in. In: MAD - Magazine of Aviation Development. Vol. 4, no. 20 (2016), p. 10-15. - ISSN 1805-7578.
6. KLEINOVÁ, Lucia - ADAMĈÍK, František - GALANDA, Jozef - ŠULEJ, Radoslav - JEZNÝ, Martin: Aircraft seat map database of selected airlines. In: ActaAvionica. Roĉ. 18, 35, ĉ. 2 (2016), s. 29-33. - ISSN 1335-9479.
7. SELIGA, Jakub - ADAMĈÍK, František - GALANDA, Jozef - ŠULEJ, Radoslav - JEZNÝ, Martin: Security policy in Windows operating systems: E-learning: ActaAvionica. Roĉ. 18, 35, ĉ. 2 (2016), s. 45-52. - ISSN 1335-9479.
8. Rudolf Andoga - Katarína Draganová - Miroslav Laššák:Inverse Neural Network Controller for Camera Gimbal Stabilization. In: Acta Avionica. Roĉ. 18, ĉ.1 (2016), s. 1-6. - ISSN 1339-9853.
9. SABATOVÁ, Jarmila - GALANDA, Jozef - ADAMĈÍK, František - JEZNÝ, Martin - ŠULEJ, Radoslav: Modern Trends in Airport Self Check-in Kiosks. In: MAD – Magazine of Aviation Development. Vol. 4, no. 20 (2016), p. 10-15. - ISSN 1805-7578.

Conferences

1. LABUN, Ján: Nové moţnost istavby senzorov elektromagnetických polí. In: Senzorika a magnetometria 2016. - Košice : TU, 2016 S. 43-52. - ISBN 978-80-553-3051-8.
2. HEŠKO, František - LIPOVSKÝ, Pavol - BRÉDA, Róbert: Aerometrický system lietadla. In: Měření, diagnostika, spolehlivost palubních soustav letadel 2016. - Brno : Univerzita obrany, 2016 P. 52-60. - ISBN 978-80-7231-377-8.
3. MIĽO, Marián - ĈEŠKOVIĈ, Marek - LABUN, Ján - KURDEL, Pavol: Laboratórna analýza metodickej chyby rádiovýškomera. Měření, diagnostika, spolehlivost palubních soustav letadel 2016. - Brno : Univerzita obrany, 2016 P. 116-125. - ISBN 978-80-7231-377-8.
4. VAISPACHER, Tomáš - BRÉDA, Róbert: eLORAN – podporný navigaĉný systém pre integraĉné architektúry. In: Měření, diagnostika, spolehlivost palubních soustav letadel 2016. - Brno : Univerzita obrany, 2016 P. 195-201. - ISBN 978-80-7231-377-8.
5. ĎURĈO, Stanislav - GLASER-OPITZ, Henrich: Means of using CPDLC with ATC procedures in terminal maneuvering area. In: Aplikace simulátorů ve výcviku leteckých specialistů. - Ostrava: LET'S FLY, 2016 P. 344-353. - ISBN 978-80-270-0053-1.
6. KALAPOŠ, Gabriel - KRCHŊÁK, Martin - GOLIÁŠ, Miroslav - LABUN, Ján: Fázové pomery VF signálu na anténe. In: Měření, diagnostika, spolehlivost palubních soustav letadel 2016. - Brno : Univerzita obrany, 2016 P. 93-100. - ISBN 978-80-7231-377-8.
7. VAISPACHER, Tomáš - BRÉDA, Róbert: Vplyv rozloţenia staníc systému eLORAN na odhad Kalmanovho filtra. In: Měření, diagnostika, spolehlivost palubních soustav letadel 2016. - Brno :Univerzita obrany, 2016 P. 202-210. - ISBN 978-80-7231-377-8.

8. MORAVEC, Tomáš - ANDOGA, Rudolf: Návrh výpoĉtovej paralelizácie v prostredí leteckého simulátora. In: Měření, diagnostika, spolehlivost palubních soustav letadel 2016 : sborník příspěvků mezinárodní vědecké konference. - Brno : Univerzita obrany, 2016 P. 126-132.- ISBN 978-80-7231-377-8.
9. ADAMĈÍK, František ml. - KOŠĈÁK, Peter - ĈEŠKOVIĈ, Marek - ZBOJOVSKÝ, Ján: Aplikácia termovíze v prevádzke. In: Safety a Security conference Praha 2016. - Praha : Vysokáškola obchodní, 2016 P. 11-17. - ISBN 978-80-86841-65-6.
10. BENKO, Martin - KURDEL, Pavol: Identifikácia kvality leteckého ergatickéhosystému. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 5-10. - ISBN 978-80-553-2592-7.
11. GNIPOVÁ, Jaroslava - LABUN, Ján: Obvody impedanĉného prispôsobenia lietadlových HF antén. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 11-15. - ISBN 978-80-553-2592-7.
12. HEŠKO, František - BRÉDA, Róbert: Návrh a realizácia aerometrické hosystému lietadla. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 16-29. - ISBN 978-80-553-2592-7.
13. KAPPELOVÁ, Lucia - LABUN, Ján: Elektromagnetická kompatibilita na palube lietadla. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 36-43. - ISBN 978-80-553-2592-7.
14. MORAVEC, Tomáš - ANDOGA, Rudolf - ĈEŠKOVIĈ, Marek: Virtualizácia avionických systémov moderných lietadiel. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 50-57. - ISBN 978-80-553-2592-7.
15. OLACH, Marek - LABUN, Ján: Rezonanĉnévlastnostilietadlovýchunipólovýchantén. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 64-69. - ISBN 978-80-553-2592-7.
16. TAKÁĈ, Tomáš - BRÉDA, Róbert: Urĉovanie deterministických parametrov inerciálnych senzorov s vyuţitím kalibrácie. In: Zborník príspevkov z diplomových prác Katedrya vioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 70-75. - ISBN 978-80-553-2592-7.
17. VOJÁĈEK, Jozef - KURDEL, Pavol: Navigaĉné lietadlové komplexy. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 76-81. - ISBN 978-80-553-2592-7.
18. MURNÍKOVÁ, Michaela - LABUN, Ján: Tendencie obvodového riešenia leteckých rádiostaníc. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. - Košice : LF TU, 2016 S. 58-63. - ISBN 978-80-553-2592-7.
19. KOTIANOVÁ, Natália - VAISPACHER, Tomáš - DRAXLER, Daniel: Selected aspects of modeling of movements of flying objects. In: Production Management and Engineering Sciences. - Leiden : CRC Press/Balkema, 2016 S. 431-434. - ISBN 978-1-138-02856-2.
20. LABUN, Ján - ĈATLOŠ, Martin - GOLIÁŠ, Miroslav: Technicko-organizaĉné špecifiká koexistencie dopravných systémov. In: Zvyšovanie bezpeĉnosti a kvality v civilnom letectve 2016. - Ţilina : EDIS, 2016 S. 104-107. - ISBN 978-80-554-1143-9.
21. KURDEL, Pavol - NOVÁK SEDLÁĈKOVÁ, Alena - MREKAJ, Boris: Projecting aviation experiment - experimental tests classification. In: Zvyšovanie bezpeĉnosti a kvality v civilnom letectve 2016. - Ţilina : EDIS, 2016 S. 27-30. - ISBN 978-80-554-1143-9.
22. GOLIÁŠ, Miroslav - ZBOJOVSKÝ, Ján - KRCHŇÁK, Martin - LABUN, Ján: Active lighting conductor for aircraft technology. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice : TU, 2016 S. 1-5. - ISBN 978-80-553-2514-9.
23. GLASER-OPITZ, Henrich - GRIĈOVÁ, Michaela - GLASER-OPITZ, Leonard: Aircraft trajectory modeling using bada model. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice : TU, 2016 S. 1-10. - ISBN 978-80-553-2514-9.
24. KALAPOŠ, Gabriel - LABUN, Ján: Possibilities evaluation of phase ratio of the radio signal. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice : TU, 2016 S. 1-8. - ISBN 978-80-553-2514-9.
25. HRABOVSKÝ, Ján - ANDOGA, Rudolf: The possibilities of software implementation of small turbo jet engine control system. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice: TU, 2016 S. 1-7. - ISBN 978-80-553-2514-9.

26. KRCHŊÁK, Martin - LABUN, Ján: Measurements in anechoic chambers. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice : TU, 2016 S. 1-10. - ISBN 978-80-553-2514-9.
27. LAZAR, Tobiáš - KURDEL, Pavol - NOVÁK SEDLÁČKOVÁ, Alena: Vybraná metóda hodnotenia efektívnosti navigačných lietadlových komplexov. In: New Trends in Civil Aviation 2016. - Ţilina :Edis, 2016 S. 44-47. - ISBN 978-80-554-1252-8.
28. NOVÁK SEDLÁČKOVÁ, Alena - KURDEL, Pavol - MREKAJ, Boris: Členstvo v leteckých alianciách a systémy chriadenia. In: New Trends in Civil Aviation 2016. - Ţilina :Edis, 2016 S. 81-85. - ISBN 978-80-554-1252-8.
29. KLIMENT, Tomáš - KRCHŊÁK, Martin - MIŢENKOVÁ, Ţaneta - LIPOVSKÝ, Pavol: Influence of periodical interference on calibration process of vector magnetometer. In: New Trends in Signal Processing. – Liptovský Mikuláš : AFA of General Milan Rastislav Štefánik, 2016 S. 43-46. - ISBN 978-80-8040-528-1.
30. KOLESÁR, Ján - PETRUF, Martin - ANDOGA, Rudolf: Application off orecasting methods in aviation. In: Production Management and Engineering Sciences. P. 419-423. - ISBN 978-1-138-02856-2.
31. BUDAJOVÁ, Kristína - GLASER-OPITZ, Henrich: Development of teaching methods in Numerical Mathematics at Faculty of Aeronautics TUKE. In: New Trends in Aviation Development. - Košice : TU, 2016 S. 9-12. - ISBN 978-80-553-2628-3.
32. VAISPACHER, Tomáš - BRÉDA, Róbert - ČEŠKOVIČ, Marek: Estimation of stochastic parameters of inertial sensors using Kalman filter. In: New Trends in Aviation Development 2016. - Košice : LF TU, 2016 S. 1-6. - ISBN 978-80-553-2628-3.
33. ADAMČÍK, František - ŠULEJ, Radoslav - GALANDA, Jozef - JEZNÝ, Martin: New generation of the departure control system for airports. In: New Trends in Aviation Development. - Košice : TU, 2016 S. 1-5. - ISBN 978-80-553-2628-3.
34. NEKRASOV, Alexey - KURDEL, Pavol: A concept for measuring the sea surface wind. In: New Trends in Aviation Development. - Košice : TU, 2016 S. 1-7. - ISBN 978-80-553-2628-3.
35. BEREŢNÝ, Štefan - BUDAJOVÁ, Kristína - KOMOVÁ, Eva - GLASER-OPITZ, Henrich: The MATH and the Vernier system at Faculty of Aeronautics.In: Computer Algebra- and Dynamic Geometry Systems in Mathematics Education. - Transylvania : Sapientia University, 2016 P. 1-6.
36. KLIMENT, Tomáš - KRCHŊÁK, Martin: Proceedings of the 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers May 12-13, 2016, Košice : Technical University - 2016. - 150 s. - ISBN 978-80-553-2514-9.
37. NYULÁSZI, Ladislav - ANDOGA, Rudolf - BUTKA, Peter - GAŠPAR, Vladimír: ComparisonofExperimentalIdentificationMethodsUsingMeasuredDatafrom a TurbojetEngine. In: SAMI 2016. - Danvers : IEEE, 2016 P. 23-27. - ISBN 978-1-4673-8739-2.
38. FŇZŇ, Ladislav - ANDOGA, Rudolf - KOVÁCS, Radovan:Thermo-dynamic cycle computation of a microturbo jet engine. In: CINTI 2016. - Danvers : IEEE, 2016 P. 000075-000079. - ISBN 978-1-5090-3909-8.
39. KOŠČÁK, Peter - ADAMČÍK, František ml.: Bezpilotné letecké prostriedky a bezpečnosť letiskovej prevádzky. In: Safety a Security konference Praha 2016. - Praha : Vysoká škola obchodní, 2016 P. 18-23. - ISBN 978-80-86841-65-6.

Patents

1. HOVANEC, Michal - KORBA, Peter - PIĽA, Ján - ADAMČÍK, František: Tepelná poistka sprinklera na báze spony a poistnej zaráţky a spôsob jej fungovania prihláška patentu č. 24-2016 – Banská Bystrica : ÚPV SR - 2016. - 1 s.
2. HOVANEC, Michal - KORBA, Peter - PIĽA, Ján - ADAMČÍK, František:Tepelná poistka sprinkléra na báze spony a poistnej zaráţky a spôsob jej fungovania prihláška úţitkového vzoru č. 21-2016 – Banská Bystrica : ÚPV SR - 2016. - 1 s.

DEPARTMENT OF AVIATION ENGINEERING

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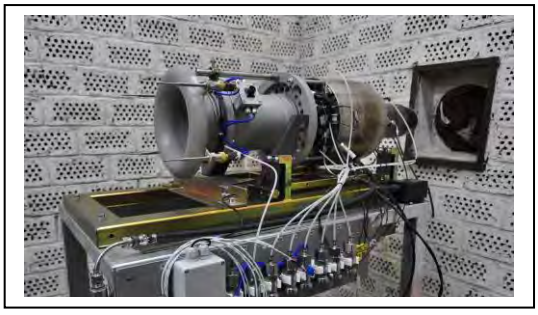

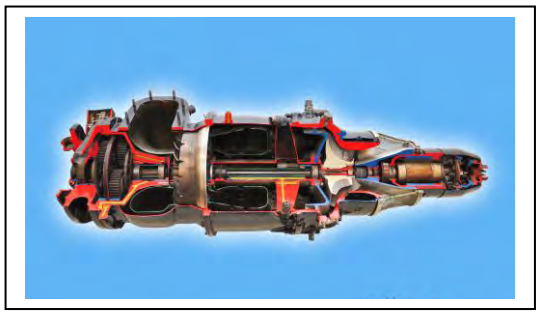

DEPARTMENT´S PROFILE

The Department is responsible for teaching subjects concentrated mainly on theoretical preparation of ground and flying staff in 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 aviationstaff in type-rating for aircraft, servicing and support equipment. The 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 a 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 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 POVAŢAN, CSc.
	prof. Ing. Martin PETRUF, PhD.
Associate Professors:	doc. Ing. Ján PIĽA, PhD.
	doc. Ing. Ladislav FŇZŇ, PhD.
Assistant Professors:	Ing. Stanislav FÁBRY, PhD.
	Ing. Marián HOCKO, PhD.
	Ing. Michal HOVANEC, PhD.
	Ing. Jozef JUDIČÁK, PhD.
Senior Scientists:	Ing. Peter KORBA, PhD.
Technical Staff:	Ing. Jiří SYROVÝ
	Ing. Miroslav HÁJEK
	Ing. Stanislav PRACHÁŘ
	Marián EPERJEŠI
	Dáša BAČÍKOVÁ
PhD. Students:	Ing. Radovan KOVÁCS
	Ing. Dalibor KUŢMA
	Ing. Jozef MALINOVSKÝ
	Ing. Maroš KOMJATY
	Ing. Miroslava CÚTTOVÁ
	Ing. Oskar SLOBODA

LABORATORIES, SPECIALIZED FACILITY

The Laboratory of Intelligent Control Systems of Jet Engines (LIRSLM in Slovakia) is situated in premises of the Faculty of Aeronautics of the Technical University in Košice. Our science and research activities in the LIRSLM 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.
Termomechanics	Ing. Marián HOCKO, PhD.
Hydromechanics	Ing. Jozef JUDIČÁK, PhD.
Aircraft Structures and Systems II.	Ing. Jozef JUDIČÁK, PhD.
Aircraft Piston Engines	Ing. Marián HOCKO, PhD.
Maintenance Procedures I.	Ing. Stanislav FÁBRY, PhD.
Air Force Legislation	Ing. Marián HOCKO, PhD.
Aircraft Turbocompressor Engines	Ing. Marián HOCKO, PhD.
Maintenance Procedures II.	Ing. Stanislav FÁBRY, PhD.
Organization and Management of Air Traffic	Ing. Stanislav FÁBRY, PhD.
Semester Project	Ing. Marián HOCKO, PhD. Ing. Jozef JUDIČÁK, PhD. Ing. Stanislav FÁBRY, PhD.
Maintenance Procedures III.	Ing. Stanislav FÁBRY, PhD.
Bachelor Thesis	Ing. Marián HOCKO, PhD. Ing. Jozef JUDIČÁK, PhD. Ing. Stanislav FÁBRY, PhD.
The Designof Aircraft, Aircraft Engines and Aircraft systems	Ing. Jozef JUDIČÁK, PhD.

Graduate Study (Ing.)

Subject	Name of Lecturer
The Design and Strength Aircraft I.	doc. Ing. Ján PIĽA, 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 PIĽA, PhD.
The Design and Strength of Aircraft Engines	Ing. Stanislav FÁBRY, PhD.
The Design and Strength Aircraft II.	doc. Ing. Ján PIĽA, PhD.
The Aviation Regulations	Ing. Marián HOCKO, PhD.
Testing of Aircraft and Aircraft Engines	Ing. Stanislav FÁBRY, PhD.
Diagnostic Systems	Ing. Stanislav FÁBRY, PhD.
Reliability of Aircraft	Ing. Stanislav FÁBRY, PhD.
Management of Maintenance and Repair	Ing. Stanislav FÁBRY, PhD.
Year Project-Design of Aircraft	doc. Ing. Ján PIĽA, PhD.
Year Project-Aircraft Engines	Ing. Marián HOCKO, PhD.
Year Project-Maintenance Procedures	Ing. Stanislav FÁBRY, PhD.
Year Project-Designing Aircraft	doc. Ing. Ján PIĽA, PhD.
Thesis Project	doc. Ing. Ján PIĽA, PhD. Ing. Stanislav FÁBRY, PhD. Ing. Marián HOCKO, PhD. Ing. Stanislav FÁBRY, PhD.

Postgraduate Study (PhD.)

Subject	Name of Lecturer
Subject Theoretical Foundation I.	prof. Ing. Jozef POVAŤAN, CSc.
Subject Theoretical Foundation II.	prof. Ing. Jozef POVAŤAN, CSc.
Subject Specialization I.	prof. Ing. Jozef POVAŤAN, CSc.
Subject Specialization II.	prof. Ing. Jozef POVAŤAN, CSc.
Subject Specialization III.	prof. Ing. Jozef POVAŤAN, CSc.
Dissertation Project I.	prof. Ing. Jozef POVAŤAN, CSc.
Dissertation Project II.	prof. Ing. Jozef POVAŤAN, CSc.
Dissertation Project III.	prof. Ing. Jozef POVAŤAN, CSc.
Dissertation Project IV.	prof. Ing. Jozef POVAŤAN, CSc.
Selected Topics in Mathematics	RNDr. Viera MISLIVCOVÁ, PhD.
Selected Chapters from Physics	doc. RNDr. Ladislav TOMČO, PhD.
Theory of Measurement	prof. Ing. Jozef POVAŤAN, CSc.

Metrology and Diagnostics	prof. Ing. Jozef POVAŢAN, CSc.
Scientific Work and Experiment	Prof. Ing. Tobiaš LAZÁR, DrSc.
Mathematics and Computer Simulation	prof. Ing. Jozef POVAŢAN, CSc.
Methods of Measurement of Selected Variables	prof. Ing. Jozef POVAŢAN, CSc.
Aerodynamics and Flight Mechanics	doc. Ing. Dušan NEŠTRÁK, CSc.
Diagnostic Systems Traffic Means	prof. Ing. Jozef POVAŢAN, CSc.
Selected Chapters of Construction Vehicles	prof. Ing. Jozef POVAŢAN, CSc.
Theory, Construction and Management of Aircraft Engines	prof. Ing. Jozef POVAŢAN, CSc.
Auxiliary Systems of Vehicles	prof. Ing. Jozef POVAŢAN, CSc.
Operation, Maintenance and Repair of Vehicles	prof. Ing. Jozef POVAŢAN, CSc.

RESEARCH PROJECTS

ESPOSA (Efficient Systems and Propulsion for Small Aircraft)
FP7 Program: 4th call FP7 EU – Aeronautics, Level 2 project grant agreement no: 284859
Responsible researcher: Ing. Zdeŋek Palát - První brněnská strojírna Velká Bíteš
Researchers: prof. Ing. Jozef Povaţan, CSc. - Head of Participating Organization no.36, Ing. Ladislav Fňzň, PhD., Ing. Rudolf Andoga, PhD., Ing. Jozef Judiĉák, PhD., Ing. Peter Malatin
Period of the solution: 2011 – 2015

CO-OPERATION

Co-operation in the Slovak Republic
- Faculty of Special Technology, Alexander Dubcek University of Trencin
- Fakulty of Industrial Technology, Alexander Dubcek University of Trencin, Puchov
- Aeroport Košice
- SlovakTechnical Museum-Aviation Museum Košice
- LOTN Trenĉín
- Tomark s.r.o. Prešov
- ATE Poprad
- Stredná odborná škola letecko-technická Trenĉín
- Fakulty of Operation and Economics of Transport and Communications, University of Ţilina
- Elite Aero GmbH & Co. KG, Košice
- SOVA Digital, Bratislava
- Aeroengineers International s.r.o Bratislava
- Ministerstvo obrany Slovenskej republiky
- Dopravný úrad Slovenskej republiky, Divízia civilného letectva
- Stredná priemyselná škola strojnícka v Prešove

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
- ARDENT Brno s.r.o
- Výskumný a zkušební letecký ústav, a.s.
- Department of Air Transport, Transportation Faculty, Czech Technical University in Prague

- Polish Air Force Academy, Deblin, Poland
- Institute of Aviation, Warsaw, Poland
- Politechnika Slaska, Wydzial transportu Katowice, Poland
- Óbuda University, Budapešt, Hungary
- UNIS Brno a. s., Czech republic
- Budapest University of Technology and Economics, Hungary
- University of Leeds, Great Britany
- Aircom Sp. z o.o., Poland
- Airberlin Technik GmbH, Košice
- Job Air Ostrava, Czech republic

Visitors to the Department
- Ing. František Bujalko, PhD., Ministerstvo obrany Slovenskej republiky
- Ing. Juraj Hub, Ph.D., University of Defence in Brno, Faculty of Military Technology, Department of Aerospace and Rocket Technologies
- Ing. Zdeněk Júza, Ph.D., MBA head of Department of Power System Engineering, Faculty of Mechanical Engineering, University of West Bohemia in Pilzen,
- doc. Ing. Jiří Polanský, Ph.D., University of Leeds, Great Britany,
- Prof. Ing. Vladimír Bella, CSc., AOS v Liptovskom Mikuláši
- Doc. Ing. Mariana Kuffová, PhD., AOS V Liptovskom Mikuláši
- Pplk. Ing. Norbert GRZESIK, PhD. Polish Air Force Academy
- Ing. Janusz CWIKLAK, PhD. Polish Air Force Academy
- Ing. Michael Konvalinka, General Electric, Praha
- Ing. Zbyněk Schreier, CSc., Národný metrologický system Slovenskej republiky

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. – 29.1.2016
- Ing. Marián Hocko, PhD. - University of West Bohemia in Pilzen, Faculty of Mechanical Engineering, Department of Power System Engineering, ERASMUS+, 25. – 29.4.2016
- Ing. Marián Hocko, PhD. - University of West Bohemia in Pilzen, Faculty of Mechanical Engineering, Department of Power System Engineering, 31.10. – 4.11.2016
- Ing. Marián Hocko, PhD. - University of West Bohemia in Pilzen, Faculty of Mechanical Engineering, Department of Power System Engineering, 28.11. – 2.12.2016
- Ing. Stanislav Fábry, PhD. - "Evaluation of in-vehicle Vibrations and their Effect on Vehicle Structures and Personnel Health and Performance". National Research Council Canada, Institute for Aerospace Research, Ottawa, Canada. 13.11. –18.11.2016
- doc. Ing. Ján Piľa, PhD. - Politechnika Slaska, Wydzial transportu Katowice, Poland

Membership in International Organization and Societies
- doc. Ing. Ján Piľa, PhD., Member of Board of Journal Zeszyty naukove, Polish Air Force Academy, Deblin, Poland
- doc. Ing. Ján Piľa, PhD., Member of Faculty Board, Politechnika Slaska, Wydzial transportu Katowice, Poland
- doc. Ing. Ján Piľa, PhD., Member of Scientific Board of Journal Transactions of the Institute of Aviation, Institute of Aviation, Warsaw, Poland
- Ing. Marián Hocko, PhD. – Member of Board Department of Power System Engineering Faculty of Mechanical Engineering, University of West Bohemia in Pilzen,

OTHER ACTIVITIES

Project for Industry Companies
- Efficient Systems and Propulsion for Small Aircraft
  prof. Ing. Jozef Povaţan, CSc., doc. Ing. Ladislav Fňzň, PhD., doc. Ing. Rudolf Andoga, PhD., Ing. Jozef Judičák, PhD.

GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	8	13	3

BACHELOR´S THESES

NAME OF STUDENT	NAME OF THESIS
Matúš CUPRÍK	Efektívnosť jednotlivých druhov alternatívnych palív v letectve
Jozef HAŢINČÁK	Súčasné vývojové trendy leteckých motorov
Nikolas IVANICS	Harmonogram získania AML v podmienkach Leteckej fakulty TUKE
Ladislav KUŢMA	Digitálny model konštrukcie vybraného bezpilotného systému
Martin POLAČEK	Alternatívne vyuţitie leteckých motorov
Patrik POTOMA	Kozmické technológie , Raketové motory na kvapalné pohonné hmoty
Miroslav SPODNIAK	Nízkocyklová únava častí leteckého turbokompresorového motora
Ondrej VENCEĽ	Návrh plánu praktického výcviku v rámci kurzu základného výcviku personálu údrţby lietadla pre modul 7, 8

MASTER'S THESES

NAME OF STUDENT	NAME OF THESIS
René ANDRAŠÍK	Návrh drakových systémov pre UAV
Boris BALUŠÍK	Modelovanie mikro turbokompresorových motorov
Veronika GAJDOŠOVÁ	Pouţitie kompozitných materiálov v letectve a spôsoby sledovania čerpania ich únavového ţivota
Peter KALINIČ	Návrh transformácie turbohriadeľového motora GTD-350 na energetickú jednotku
Jozef MALINOVSKÝ	Metódy únavového skúšania konštrukcie lietadla
Tomáš MISÁK	Spracovanie návrhu e-learningovho prostredia pre potreby výučby časti predmetu “Riadenie leteckých motorov” na úrovni poţiadaviek predpisov EASA
Tomáš OBALA	Návrh úpravy turbovrtuľového motora M-601 na energetické vyuţitie
Peter OCHODNICKÝ	Návrh a výpočet trupu malého letúna o vzletovej hmotnosti do 2000 kg
Tomáš PACIGA	Prúdové pole nad plochou strechou pre umiestnenie veternej turbíny
Jaroslav ROKOŠNÝ	Návrh transmisného systému vrtuľníka s vyuţitím PLM softvéru
Anna SÝKOROVÁ	Metódy riadenia údrţby a opráv lietadiel
Matúš ŠIROKÝ	Nestacionárny model motora iSTC-21v
Vuliam ZVALENÝ	Návrh konštrukcie bezpilotného lietajúceho zariadenia typu konvertoplán

PhD. THESES

NAME OF STUDENT	NAME OF THESIS
Ing. Maroš KOMJATY	Matematické modelovanie činností a vlastností leteckých turbokompresorových motorov z pohľadu riadiacich systémov
Ing. Miroslava CÚTTOVÁ	Nestacionárne charakteristiky profilov a ich využitie pri výpočte vrtulí
Ing. Mohamed Ali M., ELDOJALI	Use of software tools and computer simulation to support design of aerospace systems

PUBLICATIONS

Books, textbooks

- AAB001 [174157] Biopalivá v letectve / Marián Hocko - 1. vyd - Košice : LF TU - 2016. - 288 s. [CD-ROM]. - ISBN 978-80-553-2609-2. [HOCKO, Marián (80%) - OLŠOVSKÝ, Milan (10%) - DUBOVSKÝ, Michal (10%)]
- BCI001 [170376] Aerodynamika, konštrukcia a systémy piestových letúnov / Ján Piľa, Michal Hovanec, Peter Korba - 1. vyd. - Košice : TU - 2016. - 198 s.. - ISBN 978-80-553-2560-6. [PIĽA, Ján (20%) - HOVANEC, Michal (40%) - KORBA, Peter (40%)]
- BCI002 [170377] Catia a NX v simulácii lietadlových konštrukcií / Peter Korba, Michal Hovanec, Dalibor Kuţma - 1. vyd. - Košice : TU - 2016. - 137 s.. - ISBN 978-80-553-2562-0. [KORBA, Peter (50%) - HOVANEC, Michal (45%) - KUŢMA, Dalibor (5%)]
- BCI003 [170378] Konštrukcia dopravných lietadiel / Ján Piľa, Peter Korba, Michal Hovanec - 1. vyd. - Košice : TU - 2016. - 226 s.. - ISBN 978-80-553-2561-3. [PIĽA, Ján (20%) - KORBA, Peter (40%) - HOVANEC, Michal (40%)]
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- AFD029 [163152] Vyuţívanie CAx systému pri projektovaná letiskových prevádzkových plôch / Peter Korba, Jana Cibereová, Eva Piľová - 2015.In: Bezpečnosť - Kvalita - Spoľahlivosť. - Košice : TU, 2015 S. 105-109. - ISBN 978-80-553-2044-1 [KORBA, Peter (50%) - CIBEREOVÁ, Jana (40%) - PIĽOVÁ, Eva (10%)]
- AFG001 [167857] Influence of icing to the aircraft safety / Ján Piľa, Michal Hovanec, Zuzana Hajduová - 2015.In: Quality and leading in innovation. - Košice/Uzhgorod : TU/Uzhgorod national university, 2015 P. 125-125. - ISBN 978-617-589-103-2 [PIĽA, Ján (34%) - HOVANEC, Michal (33%) - HAJDUOVÁ, Zuzana (33%)]
- AFG002 [167862] On-board maintenance and health usage monitoring systems / Ján Piľa, Peter Korba, Zuzana Hajduová - 2015.In: Quality and leading in innovation. - Košice/Uzhgorod : TU/Uzhgorod national university, 2015 P. 126-126. - ISBN 978-617-589-103-2 [PIĽA, Ján (34%) - KORBA, Peter (33%) - HAJDUOVÁ, Zuzana (33%)]
- AFH001 [158092] Technická podpora leteckého priemyslu simultánnym inţinierstvom / Martin Petruf, Jozef Povaţan, Ján Kolesár - 2015.In: Engineering Sciences and Production Management 2015. - Košice : Petit, 2015 S. 157-157. - ISBN 978-80-971555-4-4 [PETRUF, Martin (40%) - POVAŢAN, Jozef (30%) - KOLESÁR, Ján (30%)]
- AFH002 [158093] Aplikácia prognostických metód v procese plánovania ponuky a dopytu v leteckej doprave / Ján Kolesár, Martin Petruf - 2015.In: Engineering Sciences and Production Management 2015. - Košice : Petit, 2015 S. 32-32. - ISBN 978-80-971555-4-4 [KOLESÁR, Ján (50%) - PETRUF, Martin (50%)]
- BDF001 [155243] SjF TU v Košiciach a výroba experimentálnych vozidiel / Aurel Sloboda, Oskár Sloboda - 2015.In: MOT'or. Roĉ. 15, ĉ. 1 (2015), s. 34-35. - ISSN 1336-4200 [SLOBODA, Aurel (50%) - SLOBODA, Oskár (50%)]

- BDF002 [156125] SjF TU v Košiciach a výroba experimentálnych vozidiel Shel Eco-marathon, vozidlo B&S 2 (pokraĉovanie)/ Aurel Sloboda, Oskár Sloboda - 2015.In: MOT'or. Február (2015), s. 34-36. - ISSN 1336-4200 [SLOBODA, Aurel (30%) - SLOBODA, Oskár (70%)]
- BDF003 [157083] SjF TU v Košiciach a výroba experimentálnych vozidiel Shel Eco-marathon, vozidlo B&S 4/ Aurel Sloboda, Oskár Sloboda - 2015.In: MOT'or. Marec (2015), s. 52-54. - ISSN 1336-4200 [SLOBODA, Aurel (30%) - SLOBODA, Oskár (70%)]
- BDF004 [158982] SjF TU v Košiciach a experimentálne vozidlo na "vodíkový" pohon Shel Eco-marathon, vozidlo B&S 5 Jeep Willys/ Aurel Sloboda, Oskár Sloboda - 2015.In: MOT'or. Máj (2015), s. 62-64. - ISSN 1336-4200 [SLOBODA, Aurel (20%) - SLOBODA, Oskár (80%)]
- BEE001 [156624] Úprava skúšobného stendu na diagnostiku leteckého hydrogenerátora NP-27 / Ján Piľa, Oskár Sloboda, Aurel Sloboda - 2015.In: Technická diagnostika. Vol. 24, no. z1 (2015), p. 173-177. - ISSN 1210-311X [PIĽA, Ján (40%) - SLOBODA, Oskár (40%) - SLOBODA, Aurel (20%)]
- BEE002 [164330] Properties of Broezel static probe / Peter Gašparoviĉ, Karol Semrád, Miroslava Cúttová - 2015.In: Experimental Fluid Mechanics 2015. - [Liberec : Petra Dancĉová and Martin Veselý], 2015 P. 194-197.[GAŠPAROVIĈ, Peter (34%) - SEMRÁD, Karol (33%) - CÚTTOVÁ, Miroslava (33%)]
- BEE003 [165049] Diagnostics of gas turbines based on changes in thermodynamics parameters / Marián Hocko, Marek Klimko - 2015.In: Experimental Fluid Mechanics 2015. - [Liberec : Petra Dancĉová and Martin Veselý], 2015 P. 278 -283.[HOCKO, Marián (70%) - KLIMKO, Marek (30%)]
- BEE004 [167836] Analýza prúdenia v odstredivom kompresore malého prúdového motora MPM-20 / Lukáš Lazík, Marián Hocko - 2015.In: Power system engineering, thermodynamics and fluid flow ES 2015. - [Plzeň : ZĈU], 2015 P. 1-10. - ISBN 978-80-261-0520-6 [LAZÍK, Lukáš (50%) - HOCKO, Marián (50%)]
- EAI001 [163753] 10 rokov Leteckej fakulty Technickej univerzity v Košiciach 2005 - 2015 / František Adamĉík ... [et al.] - 1. vyd. - Košice : TU, LF - 2015. - 256 s.. - ISBN 978-80-553-2207-0.[ADAMĈÍK, František (8%) - DRABIŠĈÁK, Jozef (8%) - KAĽAVSKÝ, Peter (8%) - KOMOVÁ, Eva (8%) - KURDEL, Pavol (8%) - VAGNER, Juraj (8%) - BÁLINT, Ján (8%) - BRÉDA, Róbert (8%) - HOCKO, Marián (6%) - KIŠ, Slavomír (8%) - MISLIVCOVÁ, Viera (8%) - POVAŢAN, Jozef (6%) - PRASLIĈKA, Dušan (8%)]

Autorské osvedčenia, patenty, objavy

- AGJ001 [170363] Tepelná poistka sprinklera na báze spony a poistnej zaráţky a spôsob jej fungovania prihláška patentu ĉ. 24-2016/ Michal Hovanec ... [et al.] - Banská Bystrica : ÚPV SR - 2016. - 1 s. [HOVANEC, Michal (35%) - KORBA, Peter (35%) - PIĽA, Ján (20%) - ADAMĈÍK, František (10%)]
- AGJ002 [170364] Tepelná poistka sprinkléra na báze spony a poistnej zaráţky a spôsob jej fungovania prihláška úţitkového vzoru ĉ. 21-2016/ Michal Hovanec ... [et al.] - Banská Bystrica : ÚPV SR - 2016. - 1 s. [HOVANEC, Michal (35%) - KORBA, Peter (35%) - PIĽA, Ján (20%) - ADAMĈÍK, František (10%)]

PUBLICATION TYPE	BOOKS TEXTBOOKS	CONFERENCE PROCEEDINGS		JOURNALS		OTHER	Σ
Number	1+5	Foreign	Home	Foreign	Home		
		5	7	10 (3)*	10 (1) *	3	41

* SCOPUS

DEPARTMENT OF AVIATION TECHNICAL STUDIES

Contact

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Assoc. Prof. Dušan PRASLIČKA, PhD.
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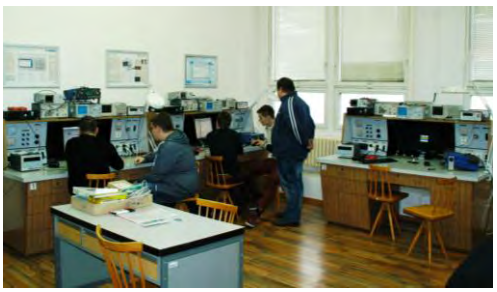

DEPARTMENT´S PROFILE

The Department was founded on the 1st September 1979 as a part of the Military Aviation University of the Slovak National Uprising in Košice under the name Department of Electrotechnics and Electronics. After consequential extinction of the Air Force Academy and after the formation of the Faculty of Aeronautics of the Technical University of Košice the structure of the Department was changed and from the 1st September 2004 the today's name - Department of Aviation Technical Studies (DATS) began using. During the last more than 30 years of its existence the Department has become a recognized and respected partner of many academic and research institutions and companies.

The primary mission of the Department is to offer, organize and provide university education for aviation study programs and to realize creative scientific research in the area of sensorics, aviation engineering and aviation electrotechnics. The DATS performs basic and applied research in the selected areas of aviation and industrial electrotechnics and engineering, particularly in sensorics, magnetometry, material engineering and unmanned aerial vehicles.

Education-Related Activities
In the pedagogical area the Department guarantees teaching of fundamental, specialized and profile subjects for the theoretical preparation in electrotechnical and engineering specializations at the Faculty of Aeronautics. In the aviation specialization the Department provides education of fundamental electrotechnical and engineering subjects in accordance with national and international aviation regulations.

The Department co-guarantees university education in the study branch 5.2.13 Electronics in all three degrees of the university study offered in accredited study programs:
First degree - Bechelor's study - Avionics systems
Second degree - Engineer's study - Sensorics and avionics systems
Third degree - PhD. study - Aviation and industrial electronic systems

The department also provides the higher level education in study field 5.2.4 Motor vehicles, railway vehicles, ships and aircrafts for the study programmes as follows:
First degree - Bachelor's degree programme - Aircraft Operation
Second degree - Master's degree programme - Aircraft Operation
Third degree - PhD. study programme - Aircraft Operation

Research and Development Activities
In the scientific area the Departments realizes basic and applied scientific research. The basic scientific research is focused on the construction of sensors of physical fields, design of circuits of magnetic field sensors, digital signal processing, design of digital filters, navigation according to physical fields, measurement of physical quantities and neural networks design. In the area of aviation engineering the basic research is focused on the determination of mechanical material characteristics, mainly of the fatigue of metals, including metallographic analysis. In the area of motor diagnostics the research is focused on the vibrodiagnostics.
The applied scientific research at the Department is focused mainly on the construction of electromagnetic impulse systems, contactless diagnostics, and analysis of ferromagnetic materials' and microwires' characteristics, on the analysis of electromagnetic smog, on the development, testing and calibration of various types of sensors and other.

STAFF

Professors:	prof. Ing. Dušan RODZIŅÁK, CSc.,
	Assoc. Prof. Ing. Jozef HUDÁK, CSc.,
Associate Professors:	Assoc. Prof. Ing. Václav MOUCHA, CSc.
	Assoc. Prof. Ing. Dušan PRASLIČKA, PhD.
	Assoc. Prof. Ing. Rudolf ZAHRADNÍČEK, CSc.
Assistant Professors:	Ing. Ivan MIKITA, PhD.
	Ing. Karol SEMRÁD, PhD.
	Ing. Jozef ČERŅAN, PhD.
	Ing. Miroslav ŠMELKO, PhD.
Senior Scientists:	Ing. Katarína DRAGANOVÁ, PhD.
	Ing. Pavol LIPOVSKÝ, PhD.
Technical Staff:	Ing. Mária JOZEKOVÁ
PhD. Students:	Ing. Norbert FLACHBART
	Ing. Viktor KÁN
	Ing. Ján BAJÚS
	Ing. Tomáš VOLČKO
	Ing. Tomáš KLIMENT

LABORATORIES, SPECIALIZED FACILITY

Characteristics of workstations
Employees of the DATS have built for the theoretical and practical education of eight student's laboratories, two specialized workstation, one computer classroom, three general classrooms, electrotechnical and engineering workroom. The Department disposes of good technical, instrumental and space equipment for the science and research activities, education and solution of practical tasks within the frame of bachelor and diploma thesis.

- General classrooms

Classrooms are used for teaching of general and technical subjects. They are accommodated for the groups from 24 to 104 students. Classrooms are equipped with necessary didactic equipment. The Department disposes of B16-28, B14-05, B14-06, B14-19, B15-14 and UB-131 classrooms.

- PC-based classroom B14/20

Characteristics of the classroom: The B14/20 classroom offers possibility for teaching of electrotechnical subjects such as Electrical Measurement, Applied Sensorics, Modelling and Simulation, during which it is necessary to use various specialized software. Computers are equipped with the programs such as MATLAB, MultiSIM, QuickField or OrCAD. It is also possible to provide here engineering activities in the area of CAD-Computer Aided Design, CAM-Computer Aided Manufacturing and CAE-Computer Aided Engineering.

Laboratories
Our laboratories create the most important part of the material and technical basis of the Department of aviation technical studies. They offer spatial and technical resources for the pedagogic and scientific activities. A wide scale of measurement devices, stands, aids and specialized software allows in the practical part of the teaching process of electrotechnical and engineering subjects to realize a wide range of experimental tasks and within the framework of the scientific area to perform demanding measurements of the fundamental and applied research. Currently the Department consists of eight specialized laboratories.

- Laboratory of sensorics - B15/L21

Characteristics of the laboratory: At the laboratory basic research of sensors of the weak magnetic fields, design and construction of relaxation magnetometers, development of methods for the metrology of the vector sensors of the physical fields and design and development of the magnetometric methods for the metal detection, archaeology and ecology is performed.

- Laboratory of electronics - B15/L22

Characteristics of the laboratory: The laboratory of electronics offers the students workstations with the technical equipment for the acquisition of practical skills mainly in the areas of verifying of the characteristics of the analogue and digital electronic components and circuits, in the area of verifying of the principles and fundamental functions of sensors for industrial, transport, aviation, safety and security systems and in the area of verifying of the fundamental tasks of security systems modelling and simulations of the electronics circuits' function.

- Laboratory of electrotechnics - B15/L23

Characteristics of the laboratory: In the laboratory functional specimens and prototypes of the solved scientific tasks are realized and measured and various experiments on the power electromagnetic systems and magnetic field actuators are realized. Measurements and experiments within the frame of bachelor, engineering and dissertation thesis are performed.

In the laboratory also other electrotechnical measurements and experiments within the frame of the scientific work of the Department are realized.

• Laboratory of electrical measurements - B15/L24
Characteristics of the laboratory: The laboratory is assigned on the practical measurement of active and passive electrical and non-electrical quantities, on the measurement of characteristics of the analogue and digital sensors and measuring devices, verifying and comparison of measurement methods, verifying of properties of the sources of the stimulation signals, on the formation of automated measuring workstations and on the acquirement of skills in the operation and selection of measurement devices.

• Laboratory of diagnostics - B15/L15
Characteristics of the laboratory: The laboratory is equipped with the R-MAT and AXMAT devices assigned for the material testing and analysis of contact fatigue is axial and radial direction for the aviation engines as well as for other types of technical appliances - for example of automotive or other technical devices.

• Laboratory of applied magnetometry - B15/L16
Characteristics of the laboratory: The laboratory is used for the research of magnetic sensors mainly on the basis of amorphous and nano-crystalline materials as well as on the basis of magnetic microwires. At the laboratory research and development of methods for signal measurement and processing for magnetometric systems and testing of sensors and magnetometers is realized. Industrial and laboratory systems with original sensors, measurements methods, intelligent signal processing and visualisation are used.

• Laboratory of sensor measuring systems - B43 / L049
The laboratory has built five measurement workplaces:
- each workstation is equipped with basic measuring equipments
- for each workplace are implemented measuring stands (for Raspberry Pi - KL25Z - modules)

• Laboratory of mechanical elements design UAS - B43 / L026
In the laboratory, students can benefit from:
- two workplaces for manual machining (mechanical works)
- two workplaces for CNC milling
- two departments for 3D Printing

Specialized workstation
• Testing of electronic subsystems for UAS electronics - B43/032
Characteristics of the workstation: The workstation is focused mainly on the realization of on-board feeding, sensoric, navigation, control and telemetric subsystems. The design and realization of new original connection of circuits, sensors and systems as well as design of new integration and control algorithms for particular subsystems is assumed. The primary goal is an original combination of on-board sensoric subsystem with exploration sensorics, mainly with the visual camera, thermo vision and physical and chemical sensors.

• Workplace for testing unmanned systems - B43/Hall 024
Technical equipment was built on the hall for testing unmanned Avionics systems (UAS) specifically for small multirotors funds, testing kinetic characteristics of micro and mini UAV and workplace for multipositioning static tests of IMU sensors

TEACHING

Bachelor Study Programme (Bc.)

Subject	Name of Lecturer
Signals analysis	Ing. Miroslav Šmelko, PhD.
Computer Aided Design II	Ing. Karol Semrád, PhD.
Computer Aided Design I	Ing. Karol Semrád, PhD.
Metallic and Non Metallic Materials	Ing. Jozef Ĉerņan, PhD.
Materials, Technologies and Engine Parts	Ing. Miroslav Šmelko, PhD.
Mechanisms and Aircraft Gadgetries	Assoc. Prof. Ing. Rudolf Zahradníĉek, CSc.
Modelling and Simulations in Electrical Engineering	Ing. Pavol Lipovský, PhD.
Seminars from Metallic and Non Metallic Materials	Ing. Jozef Ĉerņan, PhD.
Technical Documentation and Constructive Geometry	Assoc. Prof. Ing. Rudolf Zahradníĉek, CSc.
Technical Documentation and Regulations	Ing. Ivan Mikita, PhD.
Tecnical Mechanics	Assoc. Prof. Ing. Rudolf Zahradníĉek, CSc.
Fundamentals of Electronics I	Assoc. Prof. Ing. Václav Moucha, CSc.
Electrical Measurements	Assoc. Prof. Ing. Jozef Hudák, CSc.
Computer Aided Design I	Ing. Karol Semrád, PhD.
Aviation Technologies	Ing. Jozef Ĉerņan, PhD.
Programming in Electrotechnics	Ing. Pavol Lipovský, PhD.
Elasticity and Strength	Assoc. Prof. Ing. Rudolf Zahradníĉek, CSc.
Seminars from Aviation Technologies	Ing. Jozef Ĉerņan, PhD.
Seminars from Electronics	Assoc. Prof. Ing. Václav Moucha, CSc.
Seminar from Electrotechnics	Assoc. Prof. Ing. Jozef Hudák, CSc.
Fundamentals of Electronics II	Assoc. Prof. Ing. Václav Moucha, CSc.
Fundamentals of Electrotechnics	Ing. Ivan Mikita, PhD. Ing. Miroslav Šmelko, PhD.
Fundamentals od Cybernetics	Ing. Katarína Draganová, PhD.
Fundamentals of Aviation Electrotechnics and Electronics	Ing. Ivan Mikita, PhD. Ing. Miroslav Šmelko, PhD.

Master Study Programme (Ing.)

Subject	Name of Lecturer
Computer Aided Methods of Structure Design	Ing. Karol Semrád, PhD.
Electrotechnologies	Ing. Ivan Mikita, PhD. Assoc. Prof. Ing. Václav Moucha, CSc.
Computer Aided Design II	Ing. Karol Semrád, PhD.
Microsystems and Nanotechnologies	Ing. Pavol Lipovský, PhD. Assoc. Prof. Ing. Jozef Hudák, CSc.
Semestral Project from Sensorics II	Assoc. Prof. Ing. Dušan Prasliĉka, PhD.
Measuring Systems in Sensorics	Assoc. Prof. Ing. Jozef Hudák, CSc.
Signals and Systems	Assoc. Prof. Ing. Dušan Prasliĉka, PhD.
Sensors of Physical Quantities	Ing. Katarína Draganová, PhD.
Theory of Electromagnetic Field	Assoc. Prof. Ing. Dušan Prasliĉka, PhD.
Computer Aided Engineering in Aviation	Ing. Karol Semrád, PhD.
Digital Signal Processing	Assoc. Prof. Ing. Václav Moucha, CSc. Assoc. Prof. Ing. Dušan Prasliĉka, PhD.
Smart Sensors	Ing. Miroslav Šmelko, PhD.
Semestral Project from Sensorics I	Assoc. Prof. Ing. Dušan Prasliĉka, PhD.
Sensorics of Safety and Security Systems	Assoc. Prof. Ing. Václav Moucha, CSc.
Sensorics of Aviation and Transportation Systems	Assoc. Prof. Ing. Václav Moucha, CSc.
Systems for Data Aquisition and Processing	Ing. Pavol Lipovský, PhD.

Doctoral Study Programme (PhD.)

Subject	Name of Lecturer
Analysis of Signals and Systems	Assoc. Prof. Ing. Dušan Praslička, PhD.
Digitalization and Digital Signal Processing	Assoc. Prof. Ing. Václav Moucha, CSc.
Electronics of Safety and Security Systems	Assoc. Prof. Ing. Václav Moucha, CSc.
Magnetometry	Assoc. Prof. Ing. Dušan Praslička, PhD.
Mathematic and Computer Simulation of Electronic Circuits and Systems	Assoc. Prof. Ing. Dušan Praslička, PhD.
Metrology and Technical Diagnostics	Assoc. Prof. Ing. Jozef Hudák, CSc.
Measuring Systems in Sensorics	Assoc. Prof. Ing. Jozef Hudák, CSc.
Measured Data Processing	Assoc. Prof. Ing. Jozef Hudák, CSc.
Dissertation Examination	Assoc. Prof. Ing. Dušan Praslička , PhD.
Individual and Team Research Work	Assoc. Prof. Ing. Dušan Praslička , PhD.
Dissertation Thesis	Assoc. Prof. Ing. Václav Moucha, CSc.

RESEARCH PROJECTS

Project identifier: APVV-0266-10
Project name: SEMAMID – Sensors Based on Magnetic Microwires
Project duration: 05/2011 - 10/2014 – successfully finished project, under monitoring
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.
Responsible researcher: Ing. Pavol Lipovský, PhD.

RESEARCH PROJECTS

Project identifier: VEGA 1/0201/16
Project name: Magnetometers Based on Magnetic Microwires
Project duration: 01/2016 - 12/2018 – successfully closed project, under monitoring
Project scope: The project is focused on magnetic microwires. One of the potential possibilities is their utilization in the area of weak magnetic fields measurements as primary sensing elements - transducers. Miniature dimensions and almost ideal axial symmetry makes them suitable candidates for the sensing elements of RTD (Resident Time Difference) fluxgate magnetometers. However, microwire characteristics are considerably dependent on their chemical composition and thermomagnetic treatment, therefore intensive research for the optimality achievement in this application is necessary. Development is also realized in the electronics of the sensors and it is aimed on achieving the best sensor performance and low noise.
Responsible researcher: Assoc. Prof. Ing. Dušan Praslička, PhD., Assoc. Prof. Ing. Jozef Hudák, CSc.

CO-OPERATION

The Department of Aviation Technical Studies of the Faculty of Aeronautics of the Technical University of Košice has been established and co-operated on the long-term basis in various areas with multiple universities, institutes of academies of sciences and companies.
Areas in which we have offered co-operation for the partners from practice are:

- research and development of contactless embedded tensile stress and temperature sensors,
- research of special sensors and electronic units according to the customers' requirements,

- testing of properties of magnetic materials and sintered steels,
- magnetic measurements, mapping and analysis of stationary and low-frequency magnetic fields,
- co-operation in the development of intelligent multi-sensor systems,
- testing of accelerometers, gyroscopes and magnetometers for aerial vehicles and practice,
- stabilization and navigation of objects on the basis of physical fields,
- design, testing and optimization of carrying constructions with high modularity,
- design and manufacturing of mould making for plastic components,
- CAD/CAM model of a real component preparation.
- manufacturing of real models using 3D print from CAD/CAM models,
- realization of engineering computational tasks using CAE,
- testing of contact fatigue metal materials with various surface modification,
- analysis damage of surface layers of metal materials exposed to the contact fatigue testing,
- basic metallographic analysis of metal material surfaces after tribological testing,
- measurements of vibrations on the traction mechanisms and following analyses of measured vibrational spectrums.

Co-operation in Slovak the Republic
- EDIS vvd, Košice
- Pavol Jozef Šafárik University in Košice, Faculty of Science, Institute of Physics
- Slovak Academy of Sciences, Institute of Experimental Physics, Košice
- Slovak Academy of Sciences, Institute of Materials Research, Košice
- Slovak Academy of Sciences, Institute of Parasitology, Košice
- Armed Forces Academy of General Milan Rastislav Štefánik, Liptovský Mikuláš
- University of Ţilina, Faculty of Mechanical Engineering, Department of Energy
- Technology
- University of Ţilina, Faculty of Operation and Economics of Transportation and Connections, Department Air Transportation,
- Slovak Academy of Sciences, Institute of Geotechnics, Košice
- STATON Ltd. Engineering Company, Turany
- FIRST WELDING, a. s., R & D and production, certification - consulting company, Bratislava
- TOMARK s. r. o., Prešov
- PROCONT s. r. o., Prešov
- VUKOV EXTRA, a. s., Prešov
- BÖHLER – UDDEHOLM SLOVAKIA, s. r. o., Martin
- INCOFF, s. r. o., Nábreţ ná 8, Nové Zámky
- SOSA – Slovak Organisation for Space Activities, Bratislava

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, Czech Republic
- Třinecké ţelezárny, Třinec, Czech Republic
- Severoĉeské doly a.s., Chomutov, Czech Republic
- MBDA Italia S.p.A., Italy
- TESEO S.p.A., Italy
- AVIOSPACE S.r.l, Italy
- UNIVERSITA´DI PISA, Italy
- BAYERN-CHEMIE, Germany
- MAHYTECH, France
- ARDORAN OU, Estonia

- METROSERT Tallinn, Estonia
- Elec (Electronics Design), Estonia
- ALGOSYSTEMS, Greece
- TSI (Telecommunications Systems), Greece
- Technical University in Brno, Faculty of Mechanical Engineering, Institute of Aeronautics
- University of Defence, Faculty of Military Technology Brno, Department of Aerospace and Rocket Technologies, Czech Republic

Membership in Slovak Organizations and Societies

- SMAGS - ZSVTS - Slovak Magnetic Society:
  Secretary: Ing. Pavol Lipovský, PhD.
  Treasurer: Ing. Katarína Draganová, PhD.
  Members: Assoc. Prof. Ing. Dušan Praslička, PhD., Assoc. Prof. Ing. Jozef Hudák, CSc., Ing. Ivan Mikita, PhD., Ing. Miroslav Šmelko, PhD., Ing. Viktor Kán

OTHER ACTIVITIES

The Department built up and maintains the e-learning system www.moodle.leteckafakulta.sk at the Faculty of Aeronautics.
For the purpose of enhancement of education in the area of sensorics and of the exchange of technical information about sensoric systems the Department built the web page www.senzorika.leteckafakulta.sk.
In addition to the university study, the Department also offers education for aviation specialists according to the Part-66 in the M03, M04 and M06 modules, which enables the successful graduates to obtain an international aircraft maintenance license.

The first Slovak satellite skCUBE

The public presentation of the final version of skCUBE satelite was held in Bratislava at 7. 1. 2017. The former minister of the education, Peter Pelegríny attended this presentation and pointed out the quality of this project. During the spring the satellite was prepared for transportation and final integration to the spaceship. After the final integration the activities were pointed to colectivisation and summarization of information about the satellite obtained during its development. The information were summarized in theb form of scientific and technical papers, that were partialy published at 2016 and other publications will be published in 2017.
Based on the knowledge obtained during the development, the preparation process for creation of Student Laboratory of Space Electronics and Comunication was iniciated. This laboratory is going to be build during 2017 as joint laboratory with Slovak Organisation for Space Activities and the Department of Aviation Technical Studies.
Members of the Department of Aviation Technical Studies cooperating in the project: Ing. Šmelko Miroslav, PhD., Ing. Lipovský Pavol, PhD., Ing. Kliment Tomáš.

ORGANISATION OF CONFERENCES

Sensorics and Magnetometry 2016

Faculty of Aeronautics of the Technical University of Košice, Department of aviation technical training in co-operation with the SMAGS a member organisation of ZSVTS organized the scientific conference with International participation "**Sensorics and Magnetometry 2016**".
The conference was held in Košice on 8th December 2016 at the Faculty of Aeronautics.
The aim of the conference was to give information on research and development in the field of magnetic materials, magnetometry and sensors. The conference provided an opportunity for scientists, engineers and especially for young PhD. students to share their ideas and experiences in these research areas. 35 participants attended the conference, foreign participants were from Czech Republic. The conference programme consisted from 20

presentations of scientific contributions. Ing. Lipovský, Ing. Jozeková and Ing. Draganová formed the organizing committee.

AWARDS

Rector's Award for the best doctoral thesis
In the competition for the best doctoral thesis on TUKE within the "Week of Science in Slovakia" Ing. Thomas KLIMENT has won the TUKE rector award in the area of science with a dissertation thesis "Calibration magnetometer satellite skCUBE" under the guidance of his supervisor doc. Ing. Václav Moucha, CSc.

Ing. Viktor Kán, PhD. has won the first place in the national students competition „Štefan Jedlík Award“ organized by the Slovak magnetic Society, member of the Association of Slovak Scientific and Technological Societies. He has won in the category "Dissertation thesis" with his work realized at the Department of Aviation Technical Studies at Faculty of Aeronautics.

GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	14	3	2

BACHELOR´S THESES

NAME OF STUDENT	NAME OF THESIS
Valeriia BALABINA	Design of friction clutch (using V-belts) for small internal combustion engine
Tomáš BRODA	Accelerometer multisensor calibration
Ladislav FERENC	Optimisation of reciprocating petrol engine ignition system
Martina GARANČOVSKÁ	Analysis of the important airline companies from the history untill nowadays
Dominika GREŠOVÁ	The design of manned spacecraft from the beginning of Space flights
Adriána HULÍNOVÁ	Analysis of the most common causes of accidents in civil aviation
Igor IURCHENKO	Data logging system with wireless transmission
Pavol KUPČÍK	Amplitude modulation of stimulation signals
Katarína PEČÍKOVÁ	Analysis of the fuel cells utilisation in aircraft propulsion system
Dominika PRIBULOVÁ	Development of passengers and cargo transportation in aviation with regard to safety
Zoltán SZŇKE	Multichannel System for Precise PWM measurement
Dávid ŠUHAJDA	Proposal of fuel and oil system for experimental jet engine SHAKER-1
Martin VALIGA	Charakteristics measurement of aircraft model BLDC engine at generator mode
Michal ZVIRINSKÝ	CUBEsat satellite actuators

MASTER'S THESES

NAME of STUDENT	NAME of THESIS
Bc. Dávid KUBASKÝ	Design and fabrication of jet propeller using 3D printing
Bc. Radoslav GALOCI	Design and fabrication of experimental centrifugal compressor impeller for SHAKER-1engine
Bc. Jana TIBURÁKOVÁ	Computer aided information system of aviation equipment in civil aviation operation

PhD. THESES

NAME of STUDENT	NAME of THESIS
Ing. Ján BAJÚS	Stabilization of multi-rotor UAVs based on field measurements of physical quantilies
Ing. Viktor KÁN	Exploration and use of sensor effects on magnetic micro-wires

PUBLICATIONS

AAB - Scientific monographies published in domestic publishing (1)

SEMRÁD, Karol: Aplikácia numerických simulaĉných metód v technickej praxi. 1. vyd - Košice : Technická univerzita - 2016. - 139 s. [CD-ROM]. ISBN 978-80-553-2604-7.

Journals

ADE - Scientific papers in foreign journals (3)

SEMRÁD, Karol - ĈERŊAN, Jozef - DRAGANOVÁ, Katarína: Rolling Contact Fatigue Life Evaluation Using Weibull Distribution. In: Mechanics, Materials Science & Engineering Journal. Vol. 2, no. 3 (2016), p. 28-33. ISSN 2412-5954

ŠMELKO, Miroslav - PRASLIĈKA, Dušan - DRAGANOVÁ, Katarína - LIPOVSKÝ, Pavol - KÁN, Viktor - BAJÚS, Ján: Wireless strain gauge for composite materials. In: UPB Scientific Bulletin: Series D: Mechanical Engineering. Vol. 78, no. 1 (2016), p. 59-66. ISSN 1454-2358

SEMRÁD, Karol - ĈERŊAN, Jozef: Methods for solving a stress behaviour of welded joints under repeated loads. In: Mechanics, Materials Science and Engineering. Vol. 4, no. 4 (2016), p. 128-132. ISSN 2412-5954

ADF - Scientific papers in domestic journals (1)

ANDOGA, Rudolf - DRAGANOVÁ, Katarína - LAŠŠÁK, Miroslav: Inverse Neural Network Controller for Camera Gimbal Stabilization. In: Acta Avionica. Roĉ. 18, ĉ. 1 (2016), s. 1-6. ISSN 1339-9853

ADM - Scientific papers in fereign journals registered in the Web of Science or Scopus (2)

ĈERŊAN, Jozef - RODZIŊÁK, Dušan - SEMRÁD, Karol - CÚTTOVÁ, Miroslava: Material analysis of selected parts of the MPM-20 jet engine. In: AiMT - Advances in Military Technology. Vol. 11, no. 1 (2016), p. 89-100. ISSN 1802-2308

RODZIŊÁK, Dušan - HALAMA, Maroš - ĈERŊAN, Jozef - KOVALĈÍKOVÁ, Martina: Korózia betonárskej ocele v prostredí vysokopecnej a oceliarenskej trosky. In: Koroze a ochrana materiálu. Vol. 60, no. 3 (2016), p. 74-79. ISSN 0452-599X

ADN - Scientific papers in domestic journals registered in the Web of Science or Scopus (1)

ČERŊAN, Jozef - HOCKO, Marián - CÚTTOVÁ, Miroslava - SEMRÁD, Karol: Analysis of damaged turbine blades of the engine MPM 20. In: Acta Metallurgica Slovaca. Roč. 22, č. 2 (2016), s. 120-127. ISSN 1335-1532

AED - Scientific papers in domestic peer-reviewed scientific proceedings, monographies (1)

HUČKO, Mário - LIPOVSKÝ, Pavol: Návrh telemetrického systému pre prenos dát medzi pozemnou stanicou a UAV. In: Zborník príspevkov z diplomových prác Katedry avioniky a Katedry leteckej technickej prípravy. Košice: LF TU, 2016 S. 30-35. ISBN 978-80-553-2592-7

AFC - Published papers on foreign scientific conferences (3)

HEŠKO, František - LIPOVSKÝ, Pavol - BRÉDA, Róbert: Aerometrický systém lietadla. In: Měření, diagnostika, spolehlivost palubních soustav letadel 2016. Brno: Univerzita obrany, 2016 P. 52-60. ISBN 978-80-7231-377-8

LIPOVSKÝ, Pavol - ŠMELKO, Miroslav - HUDÁK, Jozef - VOLČKO, Tomáš: Odhad šumu vektorového magnetometra v beţných laboratórnych podmienkach. In: Měření, diagnostika, spolehlivost palubních soustav letadel 2016. Brno: Univerzita obrany, 2016 P. 101-108. ISBN 978-80-7231-377-8

SEMRÁD, Karol - DRAGANOVÁ, Katarína: Numerical-experimental analysis of the tensile properties of the composite wing hinge connection of the ultra-light sport aircraft. In: Měření, diagnostika, spolehlivost palubních soustav letadel 2016. Brno: Univerzita obrany, 2016 P. 101-108. ISBN 978-80-7231-377-8

Conferences

AFD - Published papers on domestic scientific conferences (14)

KLIMENT, Tomáš - KÁN, Viktor - BAJÚS, Ján - VOLČKO, Tomáš: Analysis of the Learning Algorithms of Neural Networks. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. Košice: TU, 2016 S. 1-6. ISBN 978-80-553-2514-9

VOLČKO, Tomáš - BAJÚS, Ján - KÁN, Viktor - KLIMENT, Tomáš - FLACHBART, Norbert: Surveillance and Collision Avoidance System Based on Existing Mobile Telecomunication Network. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice : TU, 2016 S. 1-6. ISBN 978-80-553-2514-9

KÁN, Viktor - BAJÚS, Ján - VOLČKO, Tomáš - KLIMENT, Tomáš - FLACHBART, Norbert: Testing of GMI Effect on Modern Magnetic Materials. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. Košice: TU, 2016 S. 1-6. ISBN 978-80-553-2514-9

BAJÚS, Ján - HUDÁK, Jozef - KÁN, Viktor - VOLČKO, Tomáš - KLIMENT, Tomáš - FLACHBART, Norbert: Testing Static Parameters of Accelerometer. In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice: TU, 2016 S. 1-10. ISBN 978-80-553-2514-9

KLIMENT, Tomáš - KRCHŊÁK, Martin - MIŢENKOVÁ, Ţaneta - LIPOVSKÝ, Pavol: Influence of periodical interference on calibration process of vector magnetometer. In: New Trends in

Signal Processing. - Liptovský Mikuláš: AFA of General Milan Rastislav Štefánik, 2016 S. 43-46. ISBN 978-80-8040-528-1

VOLČKO, Tomáš - MOUCHA, Václav - LIPOVSKÝ, Pavol - DRAGANOVÁ, Katarína: Possibility of usage the latest GSM generations for the purpose of UAV communication. In: New Trends in Signal Processing. Liptovský Mikuláš: AFA of General Milan Rastislav Štefánik, 2016 S. 102-105. ISBN 978-80-8040-528-1

KLIMENT, Tomáš - DRAGANOVÁ, Katarína - LIPOVSKÝ, Pavol: Calibration methods of magnetometers onboard the satellites. In: New Trends in Aviation Development. - Košice: TU, 2016 S. 1-5. ISBN 978-80-553-2628-3

MOUCHA, Václav - DRAGANOVÁ, Katarína - VOLČKO, Tomáš: Analysis of the actual conditions of the unmanned aerial vehicles operation in SR and implementation of the standardized knowledge basis into the education process. In: New Trends in Aviation Development. Košice : TU, 2016 S. 1-7. ISBN 978-80-553-2628-3

VOLČKO, Tomáš - MOUCHA, Václav - LIPOVSKÝ, Pavol - DRAGANOVÁ, Katarína: Increased operational safety concept of UAV by connecting to 3G4G network. In: New Trends in Aviation Development. Košice: TU, 2016 S. 1-7. ISBN 978-80-553-2628-3

SZABÓ, Peter - GALANDA, Jozef - HUDÁK, Jozef - VASIL, Vladimír: 10 years of electronic learning management system usage at the Faculty of Aeronautics and its new possibilities. In: New Trends in Aviation Development. Košice: TU, 2016 S. 1-5. ISBN 978-80-553-2628-3

KÁN, Viktor - ŠMELKO, Miroslav - LIPOVSKÝ, Pavol: Meracie pracovisko GMI efektu založené na princípe LOCK IN zosilňovača. In: Senzorika a magnetometria 2016. Košice: TU, 2016 S. 6-11. - ISBN 978-80-553-3051-8

ŠMELKO, Miroslav - LIPOVSKÝ, Pavol - DRAGANOVÁ, Katarína - MOUCHA, Václav: Prevodové charakteristiky bezkontaktného mikrodrôtového snímača. In: Senzorika a magnetometria 2016. Košice: TU, 2016 S. 12-16. - ISBN 978-80-553-3051-8

VOLČKO, Tomáš - MOUCHA, Václav - LIPOVSKÝ, Pavol - DRAGANOVÁ, Katarína: Možnosti využitia posledných generácií GSM na účely komunikačného spojenia s UAV. In: Senzorika a magnetometria 2016. Košice: TU, 2016 S. 52-59. - ISBN 978-80-553-3051-8

KLIMENT, Tomáš: Simulácia vplyvu šumu na proces učenia inverzného modelu vektorového snímača. 2016. In: Senzorika a magnetometria 2016. Košice : TU, 2016 S. 60-64. - ISBN 978-80-553-3051-8

AFG - Abstracts from foreign conferences (1)

SEMRÁD, Karol - DRAGANOVÁ, Katarína: Methodology for repeated load analysis of composite structures with embedded magnetic microwires. In: Metalurgija. Zagreb: Hrvatsko Metalursko Društvo, 2016 Vol. 55, no. 3 (2016), p. 549-576. ISSN 0543-5846. Spôsob prístupu: http://hrcak.srce.hr/index.php?show=toc&id_broj=12436.

AFH - Abstracts from domestic conferences (4)

PRASLIČKA, Dušan - LIPOVSKÝ, Pavol - HUDÁK, Jozef - ŠMELKO, Miroslav: Estimation of Multichannel Magnetometer Noise Floor in Ordinary Laboratory Conditions. In: Czech and Slovak Conference on Magnetism. Košice: Slovak Physical Society, 2016 S. 340. ISBN 978-80-971450-9-5

DRAGANOVÁ, Katarína - MOUCHA, Václav - VOLČKO, Tomáš - SEMRÁD, Karol: Non-Stationary Noise Analysis of Magnetic Sensors Using Allan Variance. In: Czech and Slovak Conference on Magnetism. Košice: Slovak Physical Society, 2016 S. 341. ISBN 978-80-971450-9-5

KLIMENT, Tomáš - PRASLIČKA, Dušan - LIPOVSKÝ, Pavol - DRAGANOVÁ, Katarína - ZÁVODSKÝ, Ondrej: Calibration of Magnetometer for Small Satellites Using Neural Network In: Czech and Slovak Conference on Magnetism. Košice: Slovak Physical Society, 2016 S. 342. ISBN 978-80-971450-9-5

SZABÓ, Peter - GALANDA, Jozef - HUDÁK, Jozef - VASIL, Vladimír: 9 Years of electronic learning management system usage at the Faculty of Aeronautics. In: New Trends in Aviation Development. Košice: TU, 2016 S. 24-24. ISBN 978-80-553-2594-1

Other Publications

BCI - Lecture notes and textbooks (1)

BLAŢEK, Josef - DRAGANOVÁ, Katarína: Základy leteckej kybernetiky vybrané kapitoly, 1. vyd. - Košice : TU, LF - 2016. - 83 s. ISBN 978-80-553-2493-7.

BEE - Specialized papers in foreign unreviewed proceedings (1)

KAPUŠ, Jakub - ZÁVODSKÝ, Ondrej - LASZLÓ, Robert - ERDZIAK, Jaroslav - SLOŠIAR, Rudolf - ŠMELKO, Miroslav - LIPOVSKÝ, Pavol - PASTERNÁK, Ľubomír - MAGYAR, Martin - MUSILOVÁ, Michaela: First Slovak satellite skCUBE. In: The 4S Symposium. Noordwijk: ESA-ESTEC, 2016 P. 1-10.

FAI - Editorial and compile work of the book type (bibliographies, encyclopedies, catalogs, proceedings...) (3)

KLIMENT, Tomáš - KRCHŇÁK, Martin: Proceedings of the 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers May 12-13, 2016, Košice. 1. vyd - Košice: Technical University, 2016. 150 s. ISBN 978-80-553-2514-9.

DRAGANOVÁ, Katarína - FERENČÍKOVÁ, Jarmila: Book of Abstracts of the International Scientific Conference New Trends in Aviation Development 2016 12. International Scientific Conference : 8th-9th September 2016, Košice, Slovakia.1. vyd - Košice: TU, Faculty of Aeronautics - 2016. - 30 s. ISBN 978-80-553-2594-1.

LIPOVSKÝ, Pavol - JOZEKOVÁ, Mária - DRAGANOVÁ, Katarína: Senzorika a magnetometria 2016 zborník prezentícií a príspevkov z vedeckej konferencie s medzinárodnou účasťou/ - 1.vyd. - Košice : TU, Košice - 2016. - 438 s. [CD-ROM]. - ISBN 978-80-553-3051-8.

GII - Various publications and documents that can not fit into any of the previous categories (2)

SEMRÁD, Karol: Posudzovanie technickej spôsobilosti konštrukcií pomocou numerických simulačných metód autoreferát habilitačnej práce. 1.vyd. - Košice : Letecká fakulta TU v Košiciach - 2016. - 33 s. ISBN 978-80-553-2633-7.

SEMRÁD, Karol: Aplikácia CAE metód v letectve tézy habilitačnej prednášky. 1.vyd. - Košice: Letecká fakulta TU v Košiciach - 2016. - 28 s.. - ISBN 978-80-553-2634-4.

DEPARTMENT OF FLIGHT TRAINING

Contact

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Rampova 7, 042 21 Kosice
web page: http://lf-klp.sk/
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Head of Department: **Ing. Róbert ROZENBERG, PhD.**
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Phone No.: +421 55 602 6162

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 Stefanik and Technical University in Kosice, the Faculty of Aeronautics was established and the depatment became a part of it. The department 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. Ľubomír FÁBRY, PhD.
	Ing. Peter KAĽAVSKÝ, PhD.
	Ing. Peter KANDRÁČ, PhD.
	Ing. Róbert ROZENBERG, PhD.
	Ing. Jozef SABO, PhD.
	Ing. Juraj VAGNER, PhD.
Secretary:	Boţena CIENIKOVÁ
Technical Staff:	Ing. Ľubomír STANKO
PhD. Students:	Ing. Viktor BALAŠČÍK
	Ing. Ţaneta MIŢENKOVÁ
	Ing. Miriam SEKELOVÁ

LABORATORIES, SPECIALIZED FACILITIES

Specialized classrooms and laboratories were built for providing courses and research activities at the Department of Flight Training.

- Simulator Laboratory LETVIS for practical training of air traffic controllers
- Laboratory of electrical systems and flight control systems
- Professional pilots on the light single-engine aircraft (Cessna 172)
- Regional Aviation Centre equipped with two modern simulators (Cessna 172 RG, Baron B 58)
- 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

Bachelor Study Programme (Bc.)

Subject	Name of Lecturer
Practical Training in Procedural Control Practical Training in Air Traffic Control Aviation Legislative	Ing. Matej Antoško, PhD.
Airports Mass and Balance Performance	doc. Ing. Ján Bálint, CSc.

English Language I - VI Aviation English English for Specific Purposes Optional Language (Russian language)	PhDr. Anna Čekanová, PhD.
Air Navigation I - II Basic of Cartography Aviation Regulations II Flight Planning and Monitoring	Ing. Stanislav Ďurčo, PhD.
Automation in ATC Procedural Air Traffic Control Practical Training in Procedural Air Traffic Control Radar Air Traffic Control Practical Training in Air Traffic Control Professional Environment	Ing. Ľubomír Fábry, PhD.
Search and Rescue Services Aircraft Weight and Balance Aircraft Performance	Ing. Peter Kaľavský, PhD.
Aviation Meteorology Aviation Meteorology I - II Air Traffic Management and Safety Flight Planning and Monitoring	Ing. Peter Kandráč, PhD.
Transport Aircraft Human Performance and Limitations Human Factors in Aviation Bachelor Thesis	Ing. Róbert Rozenberg, PhD.
Navigation I Aircraft Performance Flight Planning and Monitoring Operational Procedures Aviation Communication	Ing. Jozef Sabo, PhD.
Aviation Regulations I Safety Management Systems Air Traffic Control	Ing. Juraj Vagner, PhD.
Marketing of Air Transport	Ing. Viktor Balaščík
Transport Aircraft	Ing. Ţaneta Miţenková
Transport Aircraft	Ing. Miriam Sekelová

Master Study Programme (Ing.)

Subject	**Name of Lecturer**
Legal Standards in Aviation ATC Simulator Training I - IV	Ing. Matej Antoško, PhD.
Management of Flight Training and Flight Safety	doc. Ing. Ján Bálint, CSc.
English for Specific Purposes I.	PhDr. Anna Čekanová, PhD.
Control and Management System for ATC I - II	Ing. Ľubomír Fábry, PhD
Air Traffic Management and Flight Safety Operational Procedures in Air Traffic	Ing. Peter Kandráč, PhD.
Navigation	Ing. Jozef Sabo, PhD.
Management and Flight Safety	Ing. Juraj Vagner, PhD.

Doctoral Study Programme (PhD.)

Subject	**Name of Lecturer**
Safety and Quality of Air Traffic Air Traffic Management	doc. Ing. Ján Bálint, CSc.
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. At present the flight simulator is being used for the research collecting 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 department have written several scientific articles published for scientific conferences and journals.

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 the virtual network in the department 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 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, publishing activities.
- Transport Authority - Air Navigation Services of Slovak Republic

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. Ján Breja – Transport Authority
- Ing. Mária Kováĉová - ANS of the Slovak Republic
- Ing. Jozef Jankoviĉ - R-SYS
- Ing. Pavol Serbin- R-SYS
- Ing. Ján Sokol – Air Navigation Services
- Ing. Vojtech Šproch – Air Navigation Services
- Ing. Tibor Štriho – First Officer WizzAir

Visit of Staff Members to Foreign Institution

- Erasmus: Ing. Róbert Rozenberg, PhD. – ĈVUT Czech Republic
- Erasmus: Ing. Juraj Vagner, PhD. – ANS Czech Republic
- Erasmus: Ing. Stanislav Ďurĉo, PhD. – Aero Vodochody Czech Republic

Membership in International Organizations and Societies

Council of Universities of SR

- PhDr. Anna Ĉekanová, PhD. – a vice chairman
- Ing. Juraj Vagner, PhD. – a member

OTHER ACTIVITIES

Conferences, Seminars, Workshops

- Airspace for all and Air Navigation Services in 2016 04/13 2016
- V. Scientific Conference of PhD Students 0/12-13 2016
- New Trends in Aviation Development 2016 09/8-9 2016
- International Scientific Conference Ostrava - Mošnov 09/16-17 2016

GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	18	31	1

BACHELOR´S THESES

NAME OF STUDENT	NAME OF THESIS
BAKSHA Kristian	GBAS Activities in the Territory of the Russian Federation
BUBENÍK Jozef	Methods of Training Students before Procedural and Radar Exercises
DUSZA Tomáš	Comparison of the Use of Aviation Technology in Crisis in Slovakia and the Czech Republic
ČIERNA Veronika	Analysis of Airline Delays in Summer 2015
GROMOVSKÝ Pavel	Evaluation of the Impact of Aviation Renovation Technology on the Aircraft Flight Characteristics
HASAJOVÁ Monika	Significant weather in the praxis of an Air Traffic Control
KURDEL Marek	The effectiveness of management of complex air systems in ATM
LIČKO Miroslav	Preparation of a new air lines in scheduled air transport
MAJERNÍK Ján	Airbus wide body transport aircraft - Distance Education
MAJERNÍKOVÁ Andrea	Airbus narrow body transport aircraft - Distance Education
MALIŠOVÁ Monika	The Use of Verb Tenses in English Texts Focused on Logistics, Maintenance and Operations at Airports; Samples of Practice Tests
NÉMETHOVÁ Hélia	The meteorological factors in the praxis of ATC
SABOLOVÁ Dominika	Turboprop transport airliners - Distance Education
SABOLOVÁ Martina	Options for Creating the Teaching Environment for the System LETVIS Control Running under Windows
ŠOMODIOVÁ Miroslava	Simulation of meteorological operating minima possibilities
ŠULÍK Rastislav	Mechanical turbulence, the hazard area in the Slovakia
TOMČÍK Erik	Methodology of practical training for pilots on flight simulator BITD SE
VOJTOVIČOVÁ Jana	Possible weather making for ATC purposes

MASTER'S THESES

NAME OF STUDENT	NAME OF THESIS
Bc. ALBERT Tibor	Structure of employees in the airline
Bc. BALUN Miroslav	Connection Possibilities Between Kosice Airport and Town, Connections to other Transport Systems
Bc. BEDNARČÍK Martin	Unmanned Aerial Vehicles Simulators
Bc. BLAŠKO Jozef	Options to streamline air traffic management at regional airports in Slovakia
Bc. ČANÁDYOVÁ Vladimíra	Optimization Exercises Entering into LETVIS SIM 4 through Windows 7
Bc. ČARNÁ Miroslava	Air Tansport Management - the Analysis of Possibilities and Contents of the Study in English Language in the World
Bc. GAŢA Martin	RNAV (GNSS) approach for airport Nitra Janíkovce

Bc. HAJDÚCH Štefan	Small Regional Airport as a Means for Increasing Tourism
Bc. HALASOVÁ Monika	Global Aspects of Solving Caterig Problems in Air Transport
Bc. HUMENÍKOVÁ Mária	Low cost transport in Central Europe
Bc. JENDŢEĽOVSKÁ Lucia	Implementation of Customs Clearance Procedures at the Airport; Import and Export of Goods and Possible Optimization of the Processes
Bc. JESTREBSKÁ Simona	Evaluation Methods of Friction Coefficient on Airport Manouvering Areas and their Certification.
Bc. KAHLER Gabriela	Comparison of Operating Costs for Obtaining the Basic Selected Airplane and Helicopter Licence
Bc. KOPČÍK Lukáš	RNAV (GNSS) approach for airport Prešov
Bc. KOSTOVČIK Branislav	Economic Analysis of Air Traffic Services in Central Europe
Bc. KOŠČOVÁ Michaela	The assesment of effectivity of the Meteorological Service
Bc. KRALLOVÁ Viktória	The New Rules for the Certification of Braking Action Meters on the Air Side
Bc. LIPTÁKOVÁ Viktória	Crawl and stress among air traffic controllers
Bc. MACÁKOVÁ Lucia	The impact of hydrometeors on the economy of an aerodrome
Bc. MATVIJA Peter	Maintaining and improving safety of air transport in the world
Bc. PAŘENICA Andrej	Metodology of PPL(A) training in flight school
Bc. POSILNÁ Martina	Risk assessment and mitigation in civil aviation
Bc. SEŅKO Miroslav	The training of civilian pilots in Slovakia
Bc. SILADIOVÁ Ivana	The meteorological factors in the praxis of Air Manager
Bc. SLIVKOVÁ Dominika	Air Transport of Specific Types of Goods
Bc. SMOLKOVÁ Slávka	The Analysis of the Air Traffic Management and Economics English Specialized Vocabulary learned by Students at the Faculty of Aeronautics
Bc. SPIŠÁKOVÁ Ľubica	Manager´s Mentoring in Aviation - the Content Analysis of Selected Articles in English; Slovak-English Vocabulary of Special Words
Bc. SZABO Stanislav	Current state and development perspectives of air freight
Bc. SZARVASOVÁ Michaela	The Implementation of International Legislative Standards into National Legislation
Bc. ŠNAJDÁROVÁ Martina	Thematic Need Analysis Focused on Specific English in Air Transport Management Study Programme; Samples of Specialized Texts and Exercises
Bc. ŠUSTEROVÁ Zuzana	Marketing of selected Low Cost airline

DOCTORAL'S THESES

NAME OF STUDENT	NAME OF THESIS
Ing. KOZÁR Jozef	The Theoretical Concept of Small Satellite Navigation System for Planet Mars

PUBLICATIONS

Books, textbooks

ACB – Academic Textbooks Published by Domestic Publisher (1)

- ACB001 [172723] Letecká navigácia všeobecná navigácia / Stanislav Ďurĉo - 1. vyd - Košice: Technická univerzita - 2016. - 199 s. - ISBN 978-80-553-2583-5. [ĎURČO, Stanislav]

Journals

ADE – Scientific Articles in Foreign Journals (2)

- ADE001 [174534] Psychological aspects operating on the air traffic controller in reintegration into action after the accident / Daniela Ĉekanová ... [et al.]- 2016.In: Magazine of Aviation Development. Vol. 4, no. 20 (2016), p. 21-25. - ISSN ISSN 1805-7578 [ĈEKANOVÁ, Daniela - MIŢENKOVÁ, Ţaneta - FÁBRY, Ľubomír - ROZENBERG, Róbert]
- ADE002 [174510] Telemetry system utilization for stress monitoring of pilots during training/ Luboš Socha ... [et al.] - 2016.In: Magazine of Aviation Development. Vol. 4, no. 20 (2016), p. 33-37. - ISSN ISSN 1805-7578 [SOCHA, Luboš – HANÁKOVÁ, Lenka – SOCHA, Vladimír – LALIŠ, Andrej – ROZENBERG, Róbert – HÁNA, Karel]

ADM - Scientific Articles in Domestic Journals registered in Web of Science or SCOPUS databases (1)

- ADM001 [176650] Geometric dilution of precision of the GNSS for Mars (GNSS FATIMA)/ Jozef Kozár, Stanislav Ďurĉo, František Adamĉík - 2016. In: Aviation. Vol. 20, no. 4 (2016), p. 183-190. - ISSN 1648-7788 [KOZÁR, Jozef - ĎURĈO, Stanislav - ADAMĈÍK, František]

Other Publication

AFC – Published Articles on Foreign Scientific Conferences (8)

- AFC001 [173432] Simulátory vo výcviku riadiacich letovej prevádzky / Ţaneta Miţenková Ján Bálint, Juraj Vagner - 2016.In: Aplikace simultátoru ve výcviku leteckých specialistu - Ostrava : LET´S FLY, 2016 P. 142-155 - ISBN 978-80-270-0053-1 [MIŢENKOVÁ, Ţaneta – BÁLINT, Ján - VAGNER, Juraj]
- AFC002 [174425] Training of pilots using flight simulator and its impact on piloting precision / V. Socha ... [et al.] - 2016.In: Transport Means 2016. - Juodkrante: Kansas University of Technology, 2016 P. 374-379. – ISSN 1822-296X [SOCHA, Vladimír – SOCHA, Luboš – SZABO, Stanislav – HANA,K. – GAZDA, J. – KIMLIĈKOVÁ, M. – VAJDOVÁ, I. – MADORAN,A. – HANAKOVA, L. – NĚMEC, V. PUŠKÁŠ, Tomáš – SCHLENKER, J. - ROZENBERG, Róbert]
- AFC003 [174386] Critical elements in piloting techniques in aerobatic teams / R. Rozenberg ... [et al.] - 2016.In: Transport Means 2016. - Juodkrante: Kansas University of Technology, 2016 P. 444-449. - ISSN 1822-296X [ROZENBERG, Róbert - SOCHA, Vladimír - SOCHA, Luboš - NĚMEC, V.]
- AFC004 [173576] Vyuţitie overovacieho zariadenia vo výcviku riadiacich letovej prevádzky/ Miriam Sekelová, Matej Antoško- 2016.In: Aplikace simulátorů ve výcviku leteckých specialistů. 2016. - Ostrava: LET'S FLY, 2016 P. 157-164. - ISBN 978-80-270-0053-1 [SEKELOVÁ, Miriam - ANTOŠKO, Matej]
- AFC005 [173495] Means of using CPDLC with ATC procedures in terminal maneuvering area/ Stanislav Ďurĉo, Henrich Glaser-Opitz - 2016. In: Aplikace simulátorů ve výcviku leteckých specialistů. - Ostrava: LET'S FLY, 2016 P. 344-353. - ISBN 978-80-270-0053-1 [ĎURĈO, Stanislav - GLASER-OPITZ, Henrich]
- AFC006 [173433] Hodnoty vytvárané leteckou dopravou / Edina Jenĉová, Juraj Vagner - 2016. In: Aplikace simulátorů ve výcviku leteckých specialistů. - Ostrava: LET'S FLY, 2016 P. 355-361. - ISBN 978-80-270-0053-1 [JENĈOVÁ, Edina - VAGNER, Juraj]
- AFC007 [173728] Crawl and stress among air traffic controllers / Juraj Vagner, Edina Pappová - 2016. In: New Trends in Civil Aviation 2016. - Ţilina: Edis, 2016 S. 105-107. - ISBN978-80-554-1252-8 [VAGNER, Juraj - JENĈOVÁ, Edina]

- AFC008 [173556] Moţnosti simulácie meteorologických aspektov na leteckých trenaţéroch / Jozef Sabo - 2016. In: Aplikace simulátorů ve výcviku leteckých specialistů. - Ostrava: LET'S FLY, 2016 P. 387-398. - ISBN 978-80-270-0053-1 [SABO, Jozef]

AFD - Published Articles on Domestic Scientific Conferences (5)

- AFD001 [173725] Safety performance indicator for the provision of the air navigation services within the European Union/ Ján Bálint, Mária Kováčová - 2016.In: New Trends in Civil Aviation. - Ţilina: EDIS, 2016 P. 6-11. - ISBN 978-80-554-1252-8 [BÁLINT, Ján – KOVÁČOVÁ, Mária]
- AFD002 [168242] Hodnotenie výkonnosti pilota / Peter Kaľavský ... [et al.] - 2016.In: Zvyšovanie bezpečnosti a kvality v civilnom letectve - Ţilina: EDIS, 2016 S. 85-89. - ISBN 978-80-554-1143-9 [KAĽAVSKÝ, Peter – ROZENBERG, Róbert – SOCHA, Ľuboš – SOCHA, Vladimír]
- AFD003 [173498] Prevention of runway incursion / Ţaneta Miţenková ... [et al.] - 2016.In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice: TU, 2016 S. 1-7. - ISBN 978-80-553-2514-9 [MIŢENKOVÁ, Ţaneta – STANKO, Ľubomír – SEKELOVÁ, Miriam – SABO, Jozef]
- AFD004 [173499] Mathematical calculation of planes glide in the degradation of automated systems / Jozef Sabo ... [et al.] - 2016.In: 5th International Scientific Conference of Ph.D. Students and Young Scientists and Researchers. - Košice: TU, 2016 S. 1-7. - ISBN 978-80-553-2514-9 [SABO, Jozef – STANKO, Ľubomír – SEKELOVÁ, Miriam – MIŢENKOVÁ, Ţaneta]
- AFD005 [174598] Influence of periodical interference on calibration process of vector magnetometer / Tomáš Kliment ... [et al.] - 2016.In: New Trends in Signal Processing. – Liptovský Mikuláš: AFA of General Milan Rastislav Štefánik, 2016 S. 43-46. - ISBN 978-80-8040-528-1 [KLIMENT, Tomáš – KRCHŇÁK, Martin – MIŢENKOVÁ, Ţaneta – LIPOVSKÝ, Pavol]

BDF - Specialized Articles in Domestic Unreviewed Journals (1)

- BDF001 [174238] Gallery of presidential aircraft in the museum of aviation in Košice / Tomáš Zárik, Róbert Rozenberg - 2016.In: Acta Avionica. Roč. 17, č. 2 (2016), s. 1-7. - ISSN 1339-9479 [ZÁRIK, Tomáš – ROZENBERG, Róbert]

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
- Enjoyment of Air Traffic Control
- Enjoyment of Flying the Flight Simulators

Patents, certificates

- Certificate of Training Organization CAA of the SR “Basic Training”, SVK ATCO.TO/02

DEPARTMENT OF AIR TRANSPORT MANAGEMENT

Contact

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Faculty of Aeronautics,
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Head of Department: **Ing. Peter KOŠČÁK, PhD.**
E-mail: peter.koscak@tuke.sk
Phone No.: +421556026186




DEPARTMENT´S PROFILE

The Department of Air Traffic Management (KMLP) was established on 01/09/2004, as one of the scientific and educational institutions after merging the Institute of Aeronautics of the Air Force Academy of General M.R. Stefanik with the Technical University of Kosice under the Law №455/2004 and Act №131/2002 on University Education. After completion of the transformation process on 01/02/2005 the Faculty of Aeronautics became part of TUKE. The department personnel has years of experience in training civilian and military aviation specialists, pilots and other members of the Air Force in air transport management. The Department of Air Transport management was transformed from the Department of Combat and Operational Use in Air Force - its predecessor, which was a part of the Air Force Academy in Kosice.

Guarantees provided university education in:

- 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 at Airports
- Economic Issues of Airport Operations

It is divided into the following components:

- Department of Aviation Management
- Department of Aviation and Airport Safety

STAFF

Professors:

- prof. Ing. Milan Dţunda, CSc.
- prof. Ing. Pavel Puliš, CSc.

Associate Professors:

- doc. Ing. Slavomír Kiš, CSc.
- Dr. h. c. doc. Ing. Stanislav Szabo, PhD., MBA, LL.M
- doc. Ing. Soŋa Hurná, CSc.

Assistant Professors:

- Ing. Vladimír Begera, PhD.
- Mgr. Peter Ĉekan, PhD.
- Ing. Ján Ferenc, PhD.
- Ing. Edina Jenĉová, PhD.
- Ing. Ján Kolesár, PhD.
- Ing. Lucia Melníková, PhD.
- Ing. Ľuboš Socha, PhD.
- Ing. Alica Tobisová, PhD.

Technical Staff:

- Helena Timková
- Vojtech Rajnec

PhD. Students (Internal):

- Ing. Dorota Liptáková
- Ing. Natália Kotianová
- Ing. Daniela Ĉekanová
- Ing. Zuzana Šusterová
- Ing. Patrik Buk
- Ing. Jana Korbová

LABORATORIES, SPECIALIZED FACILITY

The department built general and specialized classrooms to ensure the teaching and scientific activities. In different subjects multimedia technology is used including multimedia software modules for computer-aided instruction and video. At the Department, the number of computer technology is available for the production of multimedia programs and didactic presentation technology.

TEACHING

Undergraduate Study (Bc.)

Subject	Name of Lecturer
Airport Ecology	prof. Ing. Pavel PULIŠ, CSc.
Air Transport Security	Ing. Ján KOLESÁR, PhD.
Basics of Air Transport	doc. Ing. Slavomír KIŠ, CSc.
Air Transport Process	Ing. Vladimír BEGERA, PhD.
Aircraft Ground Handling Equipment	Ing. Peter KOŠČÁK, PhD., Ing. Ján FERENC, PhD.
Airports Maintenance	Ing. Ján KOLESÁR, PhD.
Airport Security	Ing. Ján FERENC, PhD.
General Economic Theory	Ing. Alica TOBISOVÁ, PhD.
General Principles of Law	Mgr. Peter ČEKAN, PhD.
Economics of Air Transport	Ing. Alica TOBISOVÁ, PhD.
Human factors in Aviation	Mgr. Peter ČEKAN, PhD.
Airport Maintenance	Ing. Ján KOLESÁR, PhD.
Sociology	Mgr. Peter ČEKAN, PhD.
Organization of Air Transport	Ing. Vladimír BEGERA, PhD.
Management	Mgr. Peter ČEKAN, PhD.
Air Law	Ing. Peter KOŠČÁK, PhD.
Accounting and Finance	Ing. Alica TOBISOVÁ, PhD.
Principles of Marketing	Dr. h. c. doc. Ing. Stanislav Szabo, PhD., MBA, LL.M
Airports	Ing. Vladimír BEGERA, PhD.
Transport Aircraft	Ing. Róbert ROZENBERG, PhD.
Airlines	Ing. Edina JENČOVÁ, PhD.
Aeronautical Ground Information Systems	prof. Ing. Milan DŽUNDA, CSc.
Psychological Aspects of Managerial Work	Mgr. Peter ČEKAN, PhD.
Airports and Airport Operational Services	Ing. Peter KOŠČÁK, PhD.
Final Thesis	prof. Ing. Milan DŽUNDA, CSc.

Graduate Study (Ing.)

Subject	Name of Lecturer
Operational and System Analysis	Ing. Edina JENČOVÁ, PhD.
Economy of Airport Operation	doc. Ing. Soňa HURNÁ, CSc.
Airline Logistics	Ing. Ján FERENC, PhD.
Airport Management	doc. Ing. Slavomír KIŠ, CSc.
Airline Management	doc. Ing. Slavomír KIŠ, CSc.
Economy of Airline	doc. Ing. Soňa HURNÁ, CSc.
Human Resource Management	prof. Ing. Pavel PULIŠ, CSc.
Basics of Law	Mgr. Peter ČEKAN, PhD.
Quality Management	Ing. Luboš SOCHA, PhD.
Project Management	Ing. Lucia MELNÍKOVÁ, PhD.

Marketing of Air Transport	doc. Ing. Slavomír KIŠ, CSc.
Integrated Transport Systems	Ing. Edina JENČOVÁ, PhD.
Semester Project of Air Transport Economy	doc. Ing. Soňa HURNÁ, CSc.
Semester Project of Air Transport II	Dr. h. c. doc. Ing. Stanislav Szabo, PhD., MBA, LL.M
Crisis Management in Aviation	Ing. Ján KOLESÁR, PhD.
Operational reliability of Ground Handling Equipment	Ing. Ján FERENC, PhD.
Managerial Ethics	Dr. h. c. doc. Ing. Stanislav Szabo, PhD., MBA, LL.M
Organization of Airport Operation and Maintenance	Ing. Peter KOŠČÁK, PhD.
Controlling	Dr. h. c. doc. Ing. Stanislav Szabo, PhD., MBA, LL.M
Managerial Communication	Ing. Lucia MELNÍKOVÁ, PhD.
Ecology and Environment	Ing. Ján FERENC, PhD.
Entrepreneurship in Aviation and Quality Management	Ing. Ľuboš SOCHA, PhD.
Master's Thesis	prof. Ing. Milan DŽUNDA, 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 Traffic 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

Project identifier: KEGA 009TUKE-4/2016 - Faculty of Mining, Ecology, Process Control and Geotechnology
Project name: Design of the specialized training concept oriented to the development of experimental skills within the frame of education in the study branch logistics
Project duration: 01/2016 - 12/2018

Project scope: The main goal of the practice is a standardization of procedures and processes. This fact needs a continual mutual training process by systematic training concept for optimal training of interest group. The function of the project is a creation and development of the specialized training concept on the basis of experimental and computing – simulation approach with the focus of the solution of logistics processes in the selected enterprises and its integration to the educational process in all three levels of university and retraining education.
Chef researcher: prof. Ing. Daniela Marasová, CSc.
Researcher from FoA: Ing. Peter Košĉák, PhD.

CO-OPERATION

Co-operation in the Slovak Republic

- Airport Košice
- Airport Poprad
- Travel agency Albatros, Košice

International Co-operation

- Czech Technical University in Prague, Faculty of Transportation Sciences, Department of Air Transport
- Brno University of Technology
- Państwowa Wyższa Szkoła Zawodowa w Chełmie
- Polish Air Force Academy in Dęblin, Poland
- Sabre Austria GmbH, Viena, Austria

Contracts

Erazmus:

- Ing.Peter Košĉák, PhD. - Polish Air Force Academy in Dęblin, Poland – 18.4. – 22.4.2016

OTHER ACTIVITIES

Conferences, Seminars, Workshops

Co-organisation of The VI. International Scientific Conference „Safety at Airports and seaports“ - Polish Air Force Academy in Dęblin, Poland
Scientific Committee: Dr.h.c. doc. Ing. Stanislav Szabo, PhD., MBA, Ing. Peter Košĉák, PhD.

Co-organisation of „Optimization methods and their application in practice“ - Faculty of Economics
Scientific Committee: doc. Ing. Soŋa Hurná, CSc.

Co-organisation of „The XII. International Conference New Trends in Aviation Development2016“
Scientific Committee: prof. Ing. Milan Dţunda, PhD., doc. Ing. Slavomir Kiš, CSc.,, Dr.h.c. doc. Ing. Stanislav Szabo, PhD., MBA, prof. Ing. Pavel Puliš, CSc.

Co-organisation of the III Scientific Conference of Doctoral Students (12. – 13.05.2016)
Organising Committee: Ing. Patrik Buk.
Scientific Committee: prof. Ing. Milan Dţunda, PhD., doc. Ing. Slavomir Kiš, CSc., Dr.h.c. doc. Ing. Stanislav Szabo, PhD., MBA,

Organisation of Workshop: Airlines management
Organising Committee: Ing. Peter Košĉák, PhD., Dr.h.c. doc. Ing. Stanislav Szabo, PhD., MBA, Ing. Patrik Buk, doc. Ing. Pavol Kurdel, PhD.

GRADUATE THESES

THESIS TYPE	BACHELOR	MASTER	DOCTORAL
Number	86	139	5

BACHELOR´S THESES

NAME OF STUDENT	NAME OF THESIS
Bartóková Lucia	A Manager as a Mediator in the Working Group
Bendţalová Mária	Routing of Safety Management of Airports in Europe
Bukovická Dominika	Distribution Channels in Airline Industry
Ĉekan Štefan	Personnel controlling of an airline
Dobošová Daniela	The Role of Situational Awareness in the Human Factors in Aviation
Farkaš Marcel	Ground handling of aircraft at the airport Košice
Fejerĉák Jakub	Safety in the Use of Unmanned Aerial Vehicle
Filipová Petronela	The Development of Transport Aircraft Cabin Design
Gavrecká Simona	Occupational Safety and Health in the Operation of Airports
Harsányiová Bianka	The Role of Cognitive Processes in the Human Factors in Aviation
Hladová Veronika	Crisis Phenomena and Their Influences to Air Transport
Hockicková Mária	New concepts and communication technologies and requirements for the future communication systems in aviation
Hrivņáková Lenka	Application of UAVs for civilian area
Janík Martin	Selection Procedures in Aerial Companies
Janková Ľuboslava	Operational Factors Affecting Airport Network in Air Transport
Kaĉmárová Ľubica	Options for Stress Elimination in Managerial Work
Karlovský Dominik	Change of Environmental Impact of Aviation
Košárová Veronika	Air Transport Infrastructure Development in the SR
Kováĉová Michaela	Combined Transport in the Slovak Republic
Kudríková Stanislava	The impact of air accidents on the airline´s economy
Mackoviĉ Marko	Analysis of services provided by international airports in Slovakia
Majerníková Viktória	Marketing of the Selected Low Cost Airline
Makó Sebastián	Development of a didactical test for the subject of Air transport economics
Matta Tomáš	Legal challenges of integrating UAVs into airspace
Mészárosová Dana	Transport of animals and plants in aviation
Miková Veronika	Business policies in air transportation
Oleksová Lenka	Cooperation Between Air Carriers in Central Europe
Oravcová Nikola	Forecasts of the Number of Passengers Transported in Different Regions
Pavlík Pavol	Influence of economy types on air transport
Pilát Marek	Analysis of company competitiveness in air transportation
Podolák Rastislav	Utilization of Opto-electronic Equipment in Aviation
Rágula Viliam	Improving the quality and safety of PPL training by using flight simulators
Renĉiková Jarmila	Basic Modules of Flight Planning in Aviation Companies

Rusnáková Zuzana	Eurocontrol projects for improvement of air traffic management performance
Sokolová Gabriela	Legislative Standards in the Field of Security and Safety of Civil Aviation
Spišák Filip	Options for elimination WiFi interface interference at airside
Szekerkaiová Nikola	Contracts and Procedures in Planning and Coordination of Flight Schedules
Vargová Denisa	Communication in airline
Vaško Boris	Aircraft of US Presidents
Weiszer Róbert	Influence of aviation electronic support systems on air traffic safety
Beņová Milota	Economic efficiency of aircraft
Drahņaková Iveta	Marketing mix of the chosen airline company
Eliaš Peter	Possible Approaches to the Management of Conflict Situations in a Company
Gemza Matej	Specification of the glide path beacon from the ILS system
Hric Pavel	Specification of the localiser beacon from the ILS system
Hromádka Stanislav	Operation of Ground Traffic Control in Ensuring Flights
Hudáková Dominika	Air transport and its impact on the environment
Lipnický Daniel	The Current State and Manufacturing Perspective of Civil Transport Aircraft in China
Tomková Miroslava	Legal Protection of Civil Aviation
Vitkoviĉová Dominika	Process of solving the problem of the loss of checked baggage
Vojtek Vladimír	The survey of customer satisfaction with the services of the selected air carrier

MASTER'S THESES

NAME OF STUDENT	**NAME OF THESIS**
Baĉová Zuzana	The Marketing Environment of Air Transport in the Slovak Republic
Baslárová Dagmara	Human Factor Errors in Aviation as a Result of Communication Failure
Beņo Karol	The Proposal of a Crisis Communication Course for Flight Crews
Bobaľová Patrícia	Innovative Methods of Determining the Resistance of Airport Pavements
Bratiĉák Vladimír	Analysis of the Use of Tractors in Airports Operation
Bubernáková Veronika	Marketing of aviation companies on social network media
Buľko Jozef	Draft DCS system of low-cost air transport in backgrond of Lazarus
Demĉák Marek	Procrastination Risks of Aviation Maintenance Technicians
Fehérová Enikň	Installation Efficiency of Devices for Aircraft Precision Approach onto the Runway
Gecelovská Miriama	Business Process mapping in Airport Operations Department at Malta International Airport
Gracová Michaela	Disposal of petroleum products at the airport
Grega Ján	Search for the disappeared Boeing 777-200 aircraft, Malaysia Airlines, 8.3.2014
Gurová Zuzana	Automatic activation devices in skydiving
Horņák Peter	Security of passengers transport
Hudáková Dominika	Safety audit of the aircraft technical handling process
Isaiev Artem	Evaluation of the piloting precision of straight and level flight
Jacková Anna	Security of Airports Infrastructure
Janík Adrián	Relevant norms of flight safety
Jaroš Pavol	Analysis and Comparison of Air Shows in Selected European Cities
Juhás Peter	Development of Malta International Airport in Cargo Area
Károlyiová Veronika	Conditions and options for building a small sport airport with grassed runway on the selected area
Kaţmirská Eva	The Development of Managers´ Career
Kerekeš Tibor	Cargo Aircraft and Helicopters
Koĉiš Miloš	Modern lighting solutions of selected airport premises
Kolesárová Dominika	The air transportation process at the SmartWings Airline
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Ing. Vladimír Socha	Methods of measuring the performance of the aviation professions
Ing. Jozef Kozar	The theoretical concept of a small satellite navigation system for the planet Mars
Ing. Iveta Vajdová	Tracking changes in performance in training pilots on flight simulator
Ing. Natalia Kotianová	Relative navigation in aviation communications network
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