CURRICULUM VITAE

1. Personal data

Name: **LUNGU**
Surname: **MIHAI - AURELIU**
Birth date and place: December 13, 1980, Craiova
Home address: Craiova, Romania
Phones: 0040744344529

Job: 1) University of Craiova, Faculty of Electrical Engineering; Electric, Energetic and
      Aerospatiale Engineering Department (IEEA Department);
    2) Aerospace Engineering Doctoral School of University "Politehnica" of Bucharest.

Scientific degree: Assoc. Prof. PhD. Eng. Habil.
E-mail: Lma1312@yahoo.com, mlungu@elth.ucv.ro
Nationality: Romanian
Citizenship: Romanian
Marital status: married

2. High School

National College "Carol I" - Craiova (1996-1999);
General grade – 9.35; Baccalaureate grade – 9.58.

3. University

Faculty of Electrical Engineering, Specialization "Board Equipment and Devices";
Admission Year: 1999. **Admission Grade: 10**. Graduation year: 2004 (**the first of my group**). Final examination: grade 10. Title of the diploma project: *Automatic pilots for the aircraft longitudinal movement*.

4. Post graduate studies

Master: "**Complex Systems for Stabilization, Navigation and Aerospatiale Guidance**", University of Craiova. Admission year: 2004. Graduation year: 2005. Thesis: grade 10.

5. Ph.D. Studies

PhD Domain: "Aerospatiale Engineering", 2004-2007
University "Politehnica", Bucharest, Romania.
Title of the PhD thesis: "**Complex Adaptive and Optimal Systems for the Stabilization, Navigation and Control of the Flying Objects**".
Supervisor: *Professor PhD. Eng. Corneliu Berbente.*

6. Postdoctoral studies

6.1. 3 years postdoctoral scholarship (2010 - 2013) within the Grant "University research partnership - a step towards a postdoctoral school of the future". Grant code: **POSDRU**/89/1.5/S/61968. Contract financed from European Social Fund Operational Program Human Resources Development 2007-2013. The title of the research postdoctoral project: "**Algorithms and structures for aircrafts and rockets identification, estimation and control**". Coordinating Institution: University of Craiova.

6.2. WSEAS Postdoctoral stage – 1 year (November 2010 – October 2011). Research subject: *The state estimation and the optimal command of the flying objects*. Mentor: Professor PhD. Nikos Mastorakis, Technical University, Sofia, Bulgary.

7. *Habilitation Thesis*
Thesis title: „Modern control architectures for aerospace applications";
Graduation year: 2017;
Host institution: University Politehnica Bucharest, Faculty of Aerospace Engineering;
Fundamental domain: Aerospace Engineering, Automotive and Transportation;
PhD studies domain: Aerospace Engineering;
PhD Supervisor affiliated to the Doctoral School of the Faculty of Aerospace Engineering, University Politehnica Bucharest

8. *Foreign languages*
English – read, write, conversation, technical translation (high level);
French - read, write, conversation, technical translation (high level).

9. *Scientific competence domains*
Aerospatiale Engineering:
- Flight control systems;
- Flight objects automation;
- Aerospatiale control systems;
- Automatic pilots;
- Gyroscopic equipment and systems;
- The theory and construction of the aircrafts board apparatus;
- Computer graphics for engineers.

10. *Scientific experience*
- **9** books/chapters in books (*Appendix 1*);
- **2** laboratory guidelines (*Appendix 1*);
- **2** patents (*Appendix 1*);
- **162** scientific papers (*Appendix 1*);
- **22** scientific research grants (*Appendix 2*);
- **Romanian Academy Award** (**Aurel Vlaicu prize**) in 2010;
- **Habilitation certificate** in the university doctoral studies domain: *Aerospace engineering* – OMEN no. 5104/28.09.2017;
- **Ph.D. Leader** in the *Aerospace engineering* domain at **Aerospace Engineering Doctoral School of University "Politehnica" of Bucharest** starting with 22.03.2018;
- **Director of Scientific Research Center** "*Aerospace Engineering Research – CERTES*", University of Craiova, starting with 2020;
- member of Editorial Board – **6** international journals;
- reviewer of **33** scientific journals (**23 are ISI Journals**) and **21** international conferences;
- **395** citations;
- Hirsch index: **11** (Web of Science), **15** (Google Scholar), **12** (Scopus).

11. *Member in the Editorial Board - scientific international journals/Chairman/Associate Editor*
- *International Journal of Circuits, Systems and Signal Processing* – **Associate Editor** (2011-2014), ISSN: 1998-4464 (www.naun.org/journals/circuitssystemssignal);
- *American Journal of Engineering and Applied Sciences* – **Associate Editor** (2015-present), ISSN: 1941-7020 (http://thescipub.com/journals/ajeas/editors);
- *Oriental Journal of Computer Science and Technology* – **Associate Editor** (2017-present), ISSN: 0974-6471 (http://www.computerscijournal.org/editorial-board/);
- *SciFed Journal of Telecommunications* – **Member of Editorial team** (2017-present), http://scifed.com/journal-of-telecommunication/index.php;
- *Technology audit and production reserves* – **Member of Editorial team** (2016-present), ISSN: 2664-9969 (http://journals.uran.ua/tarp/about/editorialTeamBio/60177);
- *International Journal of Systems Engineering* – **Member of Editorial team** (2020-prezent),

ISSN: 2640-4222 (http://www.sciencepublishinggroup.com/journal/index?journalid=521);

- **Guest editor of a special issue (***Advanced Observer-Based Control for Benchmark Control Problems: From Mathematical Modeling to Control Design***)** in the ISI Journal: ***Mathematical Problems in Engineering***, ISSN: 1024-123X, FI: 0.8 (https://www.hindawi.com/journals/mpe/osi/);
- *20th IEEE International Conference on System Theory, Control and Computing (ICSTCC'16), Sinaia, 13-15 October 2016* – **Associate Editor** (2016);
- *23th IEEE International Conference on System Theory, Control and Computing (ICSTCC'19), Sinaia, 9-11 October 2019* – **Associate Editor** (2019);
- *17th International Carpathian Control Conference (ICCC 2016), Tatranská Lomnica, Slovak Republic, May 29 - June 1, 2016* – **Chairman**;
- International Conference on Control, Artificial Intelligence, Robotics and Optimization (ICCAIRO), Praga, 19-21 May 2018 – **Chairman**;
- **Organizer of the scientific special session** "*Systems and equipment for aircraft landing*" within the conference "International Conference on Applied and Theoretical Electricity – ICATE 2016" (http://elth.ucv.ro/icate/icate16/);
- World Conference on Information Systems and Technologies (WorldCist) (ISI Proceedings) – **Member of Program Committee** (2018, 2019, 2020);
- International Conference on Artificial Intelligence and Big Data (AIBD 2020), Copenhagen, Denmark, 25-26 April, 2020 – **Member of Program Committee**;
- Member of ***London Journals Press*** (https://journalspress.com/).

12. Reviewer of international journals and reviewer of international conferences

<u>Journals</u>: *Chinese Journal of Aeronautics*, ISSN: 1000-9361; *Scientific Research and Essays*, ISSN:1992–2248; *Journal of Mechanical Engineering Research*, ISSN:2141–2383; *Journal of Chemical Engineering and Materials Science*; *Journal of Computer Science, Informatics, Electrical Engineering*, ISSN:1556–6757; *WSEAS Transactions on Systems*, ISSN: 1109-2777; *International Journal of Adaptive Control and Signal Processing*, ISSN: 0890-6327; *The Aeronautical Journal*, ISSN: 0001-9240; *IEEE Transactions on Aerospace and Electronic Systems*, ISSN: 0018-9251; *Optimal Control Applications & Methods*, ISSN: 1099-1514; *Journal of Aerospace Engineering*, ISSN: 0893-1321; *Journal of Dynamic Systems, Measurement and Control (Transactions of ASME)*, ISSN: 0022-0434; *Aerospace Science and Technology*, ISSN: 1270-9638; *Asian Journal of Control*, ISSN: 1561-8625; *WSEAS Transactions on Systems and Control*, ISSN: 1991-8763; *American Journal of Applied Sciences*, ISSN: 1941-7020; *Journal of Process Control*, ISSN: 0959-1524; *International Journal of Control*, ISSN: 0020-7179; *Transactions of the Institute of Measurement and Control*, ISSN: 0142-3312; *IEEE Trans. on Industrial Electronics*, ISSN: 0278-0046; *Expert Systems with Applications*, ISSN: 0957-4174; *Journal of Control Science and Engineering*, ISSN: 1687-5249; *Proceedings of the Institution of Mechanical Engineers Part G - Journal of Aerospace engineering*, ISSN: 0954-4100; *International Journal of Aerospace Engineering*, ISSN: 1687-5966; *Engineering Optimization*, ISSN: 0305-215X; *International Journal of Advanced Robotic Systems,* ISSN: 1729-8814; *ISA Transactions*, ISSN: 0019-0578; *Engineering Applications of Artificial Intelligence,* ISSN: 0952-1976; *IMA Journal of Mathematical Control and Information,* ISSN: 0265-0754; *Measurement,* ISSN: 0263-2241; *Journal of Franklin Institute*, ISSN: 0016-0032; *Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science*, ISSN : 1454-9069; *Applied Soft Computing*.

<u>Conferences</u>: *WSEAS International Conference on Automatic Control, Modelling & Simulation* (ACMOS'12, ACMOS'13, ACMOS'14); *Automatic Control, Soft Computing and Human-Machine Interaction* (ASME'12); *16th WSEAS International Conference on Systems* (CSCC'12); *3th International Conference on Circuits, Systems, Control, Signals* (CSCS'12); *European Conference on Control* (ECC'12); *11th WSEAS International Conference on Circuits, Systems, Electronics, Control & Signal Processing* (CSECS'12); *12th WSEAS*

International Conference on Signal Processing, Robotics and Automation (ISPRA'13); *9th WSEAS International Conference on Dynamical Systems and Control* (CONTROL '13); *17th WSEAS International Conference on Systems*; *52nd IEEE Conference on Decision and Control*; *14th WSEAS International Conference on Automation & Information* (ICAI'13); *2th Intelligent Control, Modeling and Systems Engineering* (ICMS'14); *16th IEEE International Carpathian Control Conference* (ICCC '15); *Mathematical, Computational and Statistical Sciences Conference (MCSS '16)*; *16th International Conference on Robotics, Control and Manufacturing Technology*; *20th International Conference on System Theory, Control and Computing*; *American Control Conference (ACC)*; *9th International Conf. on Mathematical Modelling*; *World Conference on Information Systems and Technologies* (WorldCIST 2018, 2020); *Mediterranean Conference on Control and Automation* (MED 2018).

13. Taught courses
- Flight control systems;
- Stability and command in flight theory;
- Flying objects' automation;
- Systems for the estimation of the flying objects' state;
- Flight optimal control systems;
- Automatic control of aircraft flight on landing;
- Complex gyroscopic systems for guidance, stabilization and control;
- Adaptive systems with neural networks for the flight control;
- Construction of autopilots.

14. Computer skills
- » *Operating systems*: Windows, MS DOS
- » *Programming languages*: Pascal, C++
- » *Text processors*: Word, Amipro, Power Point
- » *Software*: Matlab, Autocad, Spice, Visio, Hi-Q, Excel.

15. Awards and scholarships
15.1. **AUREL VLAICU Romanian Academy Award** in 2010 for the book "**Sisteme de conducere a zborului (Flight control systems)**";

15.2. **AGIR Award (Award of the General Association of the Romania Engineers) – 2015** for the book "**Estimarea stării aparatelor de zbor (State estimation of the flying objects)**";

15.3. **AGIR Award (Award of the General Association of the Romania Engineers) – 2016** for the book "**Controlul automat al aeronavelor la aterizare (Aircraft automatic control during landing)**"

15.4. **3 years POSDRU postdoctoral scholarship** (April 2010 – April 2013) within the grant "University research partnership - a step towards a postdoctoral school of the future". Contract financed from European Social Fund Operational Program Human Resources Development 2007-2013. Title of the research postdoctoral theme: *Algorithms and structures for aircrafts and rockets identification, estimation and control*;

15.5. **Gradation of merit** (2012-2017, 2017-2021);

15.6. **UEFISCDI/PN II Prize**, Program ***Human Resources - Competition "The research results' award"*** **2012** for the paper: *Full-order observer design for linear systems with unknown inputs* (*International Journal of Control*, vol. 85, no. 10, 2012, pp. 1602-1615, authors: M. Lungu, R. Lungu). Project Registration Code: PN-II-RU-PRECISI-2012-6-1071. Award value: 2000 RON;

15.7. **UEFISCDI/PN II Prize**, Program ***Human Resources - Competition "The research results' award"*** **2013** for the paper: *Automatic Control of Aircraft in Longitudinal Plane During Landing* (IEEE Transactions on Aerospace & Electronic Systems,

vol. 49, no. 2, 2013, pp. 1338–1350, authors: R. Lungu, M. Lungu, T.L. Grigorie). Project Registration Code: PN-II-RU-PRECISI-2013-5255. Award value: 4000 RON;

15.8. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2013** for the paper: *ALSs with Conventional and Fuzzy Controllers Considering Wind Shears and Gyro Errors* (Journal of Aerospace Engineering, vol. 26, no. 4, 2013, pp. 794-813, authors: R. Lungu, M. Lungu, T.L. Grigorie). Project Registration Code: PN-II-RU-PRECISI-2013-5035. Award value: 2000 RON;

15.9. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2014** for the paper: *Reconfigurable Controller for Active Fault-tolerant Control Systems with Applicability to Flight Control.* (Proceedings of the Romanian Academy, Series A: Mathematics, phisics, technical sciences, information science, vol. 15, no. 2, pp. 191-199, 2014, authors: M. Lungu, R. Lungu. Registration Code: PN-II-RU-PRECISI-2014-6455. Award value: 2000 RON;

15.10. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2015** for the paper: *Adaptive Control of the Helicopters' Pitch Angle and Velocity* (*Journal* of Aerospace Engineering, vol. 27, no. 5, authors: R. Lungu, M. Lungu). Code: PN-II-RU-PRECISI-2015-11425. Award value: 4000 RON;

15.11. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2015** for the paper: *Application of H_2/H_∞ and Dynamic Inversion Techniques to Aircraft Landing Control* (Aerospace Science and Technology), vol. 46, pp. 146-158, authors: R. Lungu, M. Lungu). Code: PN-II-RU-PRECISI-2015-14159. Award value: 4000 RON;

15.12. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2015** for the paper: *Application of H_2/H_∞ Technique to Aircraft Landing Control* (Asian Journal of Control, vol. 17, no. 6, pp. 2153-2164, 2015, authors: M. Lungu, R. Lungu). Code: PN-II-RU-PRECISI-2015-14537. Award value: 2000 RON;

15.13. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2016** for the paper: *Control of the Aircraft Lateral-Directional Motion during Landing using the H-inf Control and the Dynamic Inversion* (Proceedings of the Romanian Academy, Series A: Mathematics, Phisics, Technical Sciences, Information Science, vol. 16, no. 4, pp. 547-555, 2015, authors: R. Lungu, M. Lungu). Code: PRECISI-2016-15199. Award value: 4000 RON;

15.14. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2016** for the paper: *Automatic Control of Aircraft Lateral-directional Motion during Landing using Neural Networks and Radio-technical Subsystems* (Neurocomputing Journal, vol. 171, pp. 471-481, 2016, authors: M. Lungu, R. Lungu). Code: PRECISI-2016-16905. Award value: 2000 RON;

15.15. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2016** for the paper: *Adaptive flight control law based on neural networks and dynamic inversion for micro aerial vehicles* (Neurocomputing Journal, vol. 199, pp. 40-49, 2016, authors: R. Lungu, M. Lungu). Code: PRECISI-2016-16916. Award value: 2000 RON;

15.16. **UEFISCDI/PN II Prize**, Program *Human Resources - Competition "The research results' award"* **2017** for the paper: *Automatic landing system using neural networks and radio-technical subsystems* (Chinese Journal of Aeronautics, vol. 30, no. 1, pp. 399-411, authors: R. Lungu, M. Lungu). Code: PRECISI-2017- 13534. Award value: 2000 RON;

15.17. **UEFISCDI/PN III Prize**, Program *Human Resources - Competition "The research results' award"* **2018** for the paper: *Design of Reduced-Order Multiple Observers for Uncertain Systems with Unknown Inputs* (Complexity, 2018, pp. 1-14, author: M.

Lungu). Code: PRECISI-2018-36090. Award value: 2000 RON;

15.18. **UEFISCDI/PN III Prize**, Program *Human Resources - Competition "The research results' award"* **2018** for the paper: *Neural Network based Adaptive Control of Airplane's Lateral-directional Motion during Final Approach Phase of Landing* (Engineering Applications of Artificial Intelligence, vol. 74, 2018, pp. 322-335, authors: M. Lungu, R. Lungu). Code: PRECISI-2018-42150. Award value: 6000 RON;

15.19. **UEFISCDI/PN III Prize**, Program *Human Resources - Competition "The research results' award"* **2019** for the paper: *Reduced-order multiple observer for Takagi-Sugeno systems with unknown inputs* (ISA Transcations, vol. 85, 2019, pp. 1-12, author: M. Lungu). Code: PRECISI-2019-31503. Award value: 6000 RON;

15.20. **UEFISCDI/PN III Prize**, Program *Human Resources - Competition "The research results' award"* **2019** for the paper: *Design of reduced-order multiple observers for Takagi-Sugeno systems with unknown inputs* (Measurement, vol. 134, 2019, author: M. Lungu). Code: PRECISI-2019-31521. Award value: 2000 RON;

15.21. **UEFISCDI/PN III Prize**, Program *Human Resources - Competition "The research results' award"* **2019** for the paper: *Adaptive Neural Network-Based Satellite Attitude Control by using the Dynamic Inversion Technique and a VSCMG Pyramidal Cluster* (Complexity, 2019, authors: M. Lungu, R. Lungu). Code: PRECISI-2019-31509. Award value: 6000 RON;

15.22. **Biography included in Who's Who in Science and Engineering**, Editions: 2011-2012, 2014-2015. Published by Marquis Who's Who, SUA;

15.23. **Certificate of Appreciation** for the papers presented to the WSEAS International Conference on Automatic Control, Modelling and Simulation (ACMOS'09), Turkey, May 30 - June 1 **awarded by WSEAS** (World Scientific and Engineering Academy and Society);

15.24. **Medal of honor** for outstanding results achieved in scientific research during 2014 **- Gala of excellence in research**, first edition, University of Craiova, 2016;

15.25. **Plaques and diplomas of honor** for outstanding results achieved in scientific research during 2015 and 2016 **- Gala of excellence in research**, second edition, University of Craiova, 2017;

15.26. **Diplomas of honor** for outstanding results achieved in scientific research during 2017 **- Gala of excellence in research**, third edition, University of Craiova, 2018;

15.27. **Diplomas of honor** for outstanding results achieved in scientific research during 2018 **- Gala of excellence in research**, third edition, University of Craiova, 2019;

15.28. As student I received, between years 2001 and 2004, the **performance scholarship** awarded by the Education and Research Ministry;

15.29. **Special Award** to the Physics county competition (Craiova 1998); **Awards to Mathematical and Physics county competitions** (1995-1999).

16. Skills and abilities

- sociable, ambitious, serious, punctual, honest and hardworking person;
- excellent results in teamwork;
- driving license, type B, starting with 1999.

17. Other activities

- participation in aircraft **ZLIN YR-E.I.B. 2004** refurbishment, activity domain: electrical installations and board apparatus;
- Attendance at the scientific student conference "Student Technical Days", April 26-29, 2004. Here I presented the paper: *Aircraft attitude control systems for the pitch movement*;
- design of the practical functional laboratory device *Strap – Down Gyrometric Platform for the measurement of the roll, pitch and yaw angular rates* (the platform has three

velocity gyros, it has three freedom degrees and it gives the roll, pitch and yaw angular rates of the aircraft. The platform uses an acquisition board and it is connected with the computer by means of an interface; the measurement of the three angular rates is made on-line. The software has been designed in Hi-Q by the author of the platform);
- **PLENARY SPEAKER** to the International Conference on Automatic Control, Modelling and Simulation (ACMOS '09), Istanbul, Turkey, May 30 - June 1, 2009; here I presented the paper *Non-linear Adaptive Controllers with Linear Dynamic Compensator and Neural Network and I obtained a diploma*;
- **I presented papers to important Conferences**;
- **Courses within the grant** "University research partnership - a step towards a postdoctoral school of the future".
  - ▪ "Gender equality, equal opportunities and discrimination, sustainable development and environment protection" (Craiova, February, 7-9, 2011;
  - ▪ "The research management" (Craiova, March, 12-13, 2011; March, 27-28, 2012);
  - ▪ "European Union Financed Project Management & Team Building" (Workshop organized by the European Training Centre Copenhagen, Denmark, and the University of Craiova – Craiova, June 10-13, 2014);
  - ▪ "Electronic access to the scientific literature to support and promote the research and education system in Romania" (Craiova, 25 february 2020).

18. *Member of Scientific Societies*
- **Member of S.R.A.I.T.** (Automatics and Informatics Romanian Society), 2010-2013;
- **Member of A.G.I.R.** (General Association of the Romanian Engineers) starting with 2011;
- **Member of A.A.A.R.** (Romanian Aeronautical and Astronautically Association) starting with 2009;
- **Collaborator member** of Association "**Romanian Wings**" starting with 2010;
- **Member of D.A.A.M.** (Danube Adria Association for Automation & Manufacturing Vienna - Austria) – years 2008, 2010, 2011;
- **Director of CERTES Research Centre** (Research and testing of the electro energetic systems and of the Aerospatiale stabilization and navigation systems).

19. *Activities regarding the education process*
- o Leading of approximately **38** diploma projects and dissertations;
- o Organization of meetings with high school students for the presentation of specialization "Avionic equipments and devices";
- o Elaboration of presentation materials for the presentation of specialization "Avionics equipment and devices";
- o Elaboration of didactical materials;
- o Member of advisory committees for **4** PhD students (University "Politehnica" of Bucharest, Faculty of Aerospace engineering.

20. *Non-didactical activities*
- o Evaluation expert for the research grants financed by UEFISCDI (2017-present);
- o I participated to the development of laboratory facilities in the subjects of the taught courses;
- o Member in the committee for the accreditation of the specialization "Avionics Equipment and Devices" (2009) and for the accreditation of the specialization "Complex systems for the aerospace engineering" (2013, 2018);
- o Secretary/Member of the Commission for the Enrollment in college, July – September 2010, 2011, 2016, 2017, 2018, 2019;
- o Member of the Commission for diploma exam (specialization: "Avionics Equipment and Devices") and dissertation exam (specialization: "Complex systems for the

aerospace engineering"), the July/September 2018, 2019;
o Member in the organization team of the Scientific conference for students in the domain of electrical engineering, May 19-20, 2016; member in the comision for evaluation of the papers in Section 1 – "Electromechanical modern systems";
o Member in the competition commission, job: Assistant, position 56, Faculty of Electrical Engineering, domain: "Aerospace Engineering", 2016;
o I participated to the wording of approximately **30** research projects proposals;
o I participated to the acquisition processes for the our laboratories;
o I participated to the activities regarding the maintenance and repairing of lab equipment and devices;
o Member in the coordinating team for the educational partnership research "*Traces littéraires et géographiques d'Antoine de Saint-Exupéry*", April –May 2011. Partners: "Tudor Arghezi" Theoretical High School, ISJ Dolj, Faculty of Electrical Engineering. The project chief: Raluca Lungu.

21. *Personal web page*: **http://avionica.elth.ucv.ro/mlungu/en**

Assoc. Prof. PhD. Eng. Habil. Mihai LUNGU

PUBLICATIONS

PHD THESIS

Title of the PhD thesis: "***Complex Adaptive and Optimal Systems for the Stabilization, Navigation and Control of the Flying Objects***";
Graduation year: 2007;
Host institution: **University "Politehnica"**, Bucharest, Romania
PhD Domain: ***Aerospatiale Engineering***
Supervisor: Professor PhD. Eng. Corneliu Berbente

HABILITATION THESIS

Thesis title: „***Modern control architectures for aerospace applications***";
Graduation year: 2017;
Host institution: **University Politehnica Bucharest**, Faculty of Aerospace Engineering;
Fundamental domain: Aerospace Engineering, Automotive and Transportation;
PhD studies domain: ***Aerospace Engineering***;
PhD Supervisor affiliated to the Doctoral School of the Faculty of Aerospace Engineering, University Politehnica Bucharest.

BOOKS/CHAPTERS IN BOOKS/ LABORATORY GUIDELINES

1. **Lungu, M.** *Sisteme de conducere a zborului* (*Flight control systems*). Sitech Publisher, Craiova, 2008, 329 pp., ISBN: 978-973-746-975-5 (the book has received **AUREL VLAICU Romanian Academy Award** in 2010) **(1 citation)**.
2. **Lungu, M.** *Algoritmi si structuri pentru identificarea, estimarea si conducerea zborului aeronavelor si rachetelor (Algorithms and structures for aircraft and rocket flight identification, estimation and control)*. Sitech Publisher, Craiova, 2013, 340 pp., ISBN: 978-606-11-3113-6.
3. **Lungu, M.,** Lungu R. *Estimarea stării aparatelor de zbor (*S*tate estimation of the flying object*s). Sitech Publisher, Craiova, 2014, 290 pp., ISBN: 978-606-11-3699-5 (**AGIR Award - General Association of the Romania Engineers – 2015**) **(1 citation)**.
4. Lungu, R., **Lungu M.** *Controlul automat al aeronavelor la aterizare (Aircraft automatic control during landing)*. Sitech Publisher, Craiova, 2015, 398 pp., ISBN: 978-606-11-4341-2 (**AGIR Award - General Association of the Romania Engineers – 2016**) **(2 citations)**.
5. **Lungu M.** *Controlul optimal al aparatelor de zbor (Optimal control of the flying objects)*. Sitech Publisher, Craiova, 2015, 178 pp., ISBN: 978-606-11-4840-0.
6. Lungu, R., Sepcu, L., **Lungu, M.** *Dinamica şi controlul zborului micro-vehiculelor aeriene (Dynamics and control of the Micro Aerial Vehicles)*. Sitech Publisher, Craiova, 2016, 238 pp., ISBN: 978-606-11-5103-5.
7. Lungu, R., **Lungu, M.** *Aircraft Landing Control Using the H-inf Control and the Dynamic Inversion Technique*. Chapter in the book „Automation and Control Trends", ISBN 978-953-51-2671-3 (editors: Pedro Ponce, Arturo Molina Gutierrez, Luis M. Ibarra). Intech Publisher, 2016, pp. 101-120 **(1 citation)**.
8. Lungu, R., Ioan, M., **Lungu, M.** *Controlul giroscopic al atitudinii sateliţilor (Gyro control of satellites' attitude)*. Sitech Publisher, Craiova, 2017, 260 pp., ISBN: 978-606-11-6108-9.

9. Ben Warrad, S., Boubaker, O., **Lungu, M.**, Zhu, Q. *On unknown inputs observer design for linear systems with delays in states and inputs*. Chapter in book „New Trends in Observer-based Control - Design and Applications – vol. 1", ISBN: 978-0128170380 (editors: O. Boubaker, Q. Zhu, M.S. Mahmoud, J. Ragot, H.R. Karimi, J. Davila). Elsevier Publisher, 2019, pp. 119-139.

10. **Lungu, M.**, Lungu, R. *Sisteme de conducere a zborului – Lucrari practice de laborator (Flight control systems – Laboratory Guidelines)*, Sitech Publisher, Craiova, 2010, 130 pp., ISBN: 978-606-530-688-2.

11. **Lungu, M.**, Lungu, R. *Estimarea stării aparatelor de zbor – Lucrari practice de laborator (*S*tate estimation of the flying objects – Laboratory Guidelines)*, Sitech Publisher, Craiova, 2014, 160 pp., ISBN: 978-606-11-4151-7.

PATENTS

1. Preotu, O., Dumitrache, A., **Lungu, M.**. *Aero hydrodynamic body with low resistance and enhanced Coanda effect meant for air vehicles, marine and river ships achieving low resistance to motion*. Patent number: RO126028-A0, 2010.

2. Preotu, O., Dumitrache, A., Frunzulică, F., **Lungu, M.**, Sîrbu, I., Duţă, M. *Instalatie pentru demonstrarea amplificarii directe a efectului Coanda*. Registration number at OSIM: A/0035; date: 03/05/2018.

ISI JOURNAL PAPERS

1. Lungu, R., **Lungu, M.**, Rotaru, C. *Non-linear adaptive system for the control of the helicopters pitch's angle*. Proceedings of the Romanian Academy, Series A: Mathematics, Physics, Technical Sciences, Information Science, vol. 12, nr. 2/2011, pp. 133 – 142, ISSN: 1454-9069, databases: ISI Web of Science (**ISI Journal**) **(4 citations)**. *Journal relative impact factor: 0.149, Journal Influence Relative Score: 0.*

2. **Lungu, M.**, Lungu, R., Rotaru, C. *New Systems for Identification, Estimation and Adaptive Control of the Aircrafts' Movements*. Studies in Informatics and Control ISSN: 1220-1766, databases: ISI Web of Science (**ISI Journal**) **(8 citations)**. *Journal relative impact factor: 0.671, Journal Influence Relative Score: 0.* **Databases: ISI Web of Science, Scopus.**

3. Grigorie, T.L., Botez, R.M., **Lungu, M.**, Edu, I.R., Obreja, R. *Micro-electromechanical systems gyro performance improvement through bias correction over temperature using an adaptive neural network-trained fuzzy inference system*. Proceedings of the Institution of Mechanical Engineers Part G - Journal of Aerospace engineering, vol. 226, no. 9, 2012, pp. 1121-1138, DOI: 10.1177/0954410011417793, ISSN: 0954-4100 (**ISI Journal**) **(6 citations)**. *Journal relative impact factor: 1.18923, Journal Influence Relative Score: 0.683*. **Databases: ISI Web of Science, Scopus.**

4. Lungu, R., **Lungu, M.**, Grigorie, T.L. *ALSs with Conventional and Fuzzy Controllers Considering Wind Shears and Gyro Errors*. Journal of Aerospace Engineering, vol. 26, no. 4, pp. 794-813, DOI: 10.1061/(ASCE)AS.1943-5525.0000207, ISSN: 0893-1321, e-ISSN: 1943-5525 (**ISI Journal**) **(6 citations)**. *Journal relative impact factor: 1.09846, Journal Influence Relative Score: 1.409.* **Databases: ISI Web of Science, Scopus.**

5. **Lungu, M.**, Lungu, R., *Full-Order Observer Design for Linear Systems with Unknown Inputs*. International Journal of Control, vol. 85, no: 10, 2012, pp. 1602-1615, DOI: 10.1080/ 00207179. 2012.695397, ISSN: 0020-7179 (**ISI Journal**) **(28 citations)**. *Journal relative impact factor: 0.977, Journal Influence Relative Score: 1.00*. **Databases: ISI Web of Science, Scopus.**

6. **Lungu, M.**, Lungu, R. *Adaptive Backstepping Flight Control for a Mini–UAV*. International Journal of Adaptive Control and Signal Processing, vol. 27, pp. 635-650, 2013, DOI: 10.1002/ACS.2330, ISSN: 0890-6327 (**ISI Journal**) **(26 citations)**. *Journal relative impact factor: 0.913, Journal Influence Relative Score: 1.081*. **Databases: ISI Web of Science, Scopus.**

7. Lungu, R., **Lungu, M.** *Adaptive Control of the Helicopters' Pitch Angle and Velocity*. Journal of

Aerospace Engineering, vol. 27, no. 5, DOI: 10.1061/(ASCE)AS.1943-5525.0000286, ISSN: 0893-1321, e-ISSN: 1943-5525 **(ISI Journal)** **(5 citations)**. *Journal relative impact factor: 1.09846, Journal Influence Relative Score: 1.409*. **Databases: ISI Web of Science, Scopus.**

8. Lungu, R., **Lungu, M.**, Grigorie, T.L. *Automatic Control of Aircraft in Longitudinal Plane During Landing.* IEEE Transactions on Aerospace & Electronic Systems, vol. 49, no. 2, 2013, pp. 1338–1350, ISSN: 0018-9251 **(ISI Journal)** **(27 citations)**. *Journal relative impact factor: 1.095, Journal Influence Relative Score: 2.212*. **Databases: ISI Web of Science, IEEE Xplore**.

9. **Lungu, M.**, Lungu, R. *Reduced Order Observer for Linear Time-Invariant Multivariable Systems with Unknown Inputs.* Circuits, Systems, and Signal Processing, Springer, vol. 32, no. 6, pp. 2883-2898, 2013, ISSN: 0278-081X **(ISI Journal)** **(18 citations)**. *Journal relative impact factor: 0.817, Journal Influence Relative Score: 0.64439*. **Databases: ISI Web of Science, Scopus.**

10. **Lungu, M.**, Lungu, R. *Reconfigurable Controller for Active Fault-Tolerant Control Systems with Applicability to Flight Control.* Proceedings of the Romanian Academy, Series A: Mathematics, Phisics, Technical Sciences, Information Science, vol. 15, no. 2, pp. 191-199, 2014, ISSN: 1454-9069 **(ISI Journal)** **(3 citations)**. *Journal relative impact factor: 0.537, Influence relative score: 0.104*. **Databases: ISI Web of Science.**

11. Lungu, R., **Lungu, M.**, *Automatic Landing Control using H-inf Control and Dynamic Inversion.* Proceedings of the Institution of Mechanical Engineers Part G - Journal of Aerospace Engineering, vol. 228, no. 14, 2014, pp. 2612-2626, DOI: 10.1177/0954410014523946, ISSN: 0954-4100 **(ISI Journal)** **(10 citations)**. *Journal relative impact factor: 1.18923, Influence relative score: 0.683*. **Databases: ISI Web of Science.**

12. **Lungu, M.**, Lungu, R., *Design of Full-order Observers for Systems with Unknown Inputs by using the Eigenstructure Assignment.* Asian Journal of Control, vol. 16, no. 5, pp. 1470-1481, 2014 DOI: 10.1002/ asjc.889, ISSN: 1561-8625 **(ISI Journal)** **(10 citations)**. *Journal relative impact factor: 1.411, Influence relative score: 0.433*. **Databases: ISI Web of Science, Scopus.**

13. Lungu, R., Sepcu, L., **Lungu, M.** *Four-bar mechanism's PD and neural adaptive control for the thorax of the micromechanical flying insects.* Journal of Dynamic Systems, Measurement and Control (Transactions of ASME), vol. 137, no. 5, 2015, DOI: 10.1115/1.4028793, ISSN: 0022-0434, e-ISSN: 1528-9028 **(ISI Journal)** **(3 citations)**. *Journal relative impact factor: 0.758, Influence relative score: 0.966*. **Databases: ISI Web of Science.**

14. **Lungu, M.**, Lungu, R., *Application of H_2/H_∞ Technique to Aircraft Landing Control.* Asian Journal of Control, vol. 17, no. 6, pp. 2153-2164, 2015, DOI: 10.1002/asjc.1132, ISSN: 1561-8625 **(ISI Journal)** **(9 citations)**. *Journal relative impact factor: 1.411, Influence relative score: 0.459*. **Databases: ISI Web of Science.**

15. Lungu, R., **Lungu, M.**, *Automatic Control of Aircraft in Lateral-Directional Plane During Landing.* Asian Journal of Control, vol. 18, no. 3, pp. 433-446, 2016, DOI: 10.1002/asjc.1133, ISSN: 1561-8625 **(ISI Journal)** **(12 citations)**. *Journal relative impact factor: 1.411, Influence relative score: 0.433*. **Databases: ISI Web of Science.**

16. Lungu, R., **Lungu, M.**, *Control of the Aircraft Lateral-Directional Motion during Landing using the H-inf Control and the Dynamic Inversion.* Proceedings of the Romanian Academy, Series A: Mathematics, Phisics, Technical Sciences, Information Science, vol. 16, no. 4, pp. 547-555, 2015, ISSN: 1454-9069 **(ISI Journal)** **(1 citation)**. *Journal relative impact factor: 1.658, Influence relative score: 0.369*. **Databases: ISI Web of Science.**

17. **Lungu, M.**, Lungu, R., *Automatic Control of Aircraft Lateral-directional Motion during Landing using Neural Networks and Radio-technical Subsystems.* Neurocomputing Journal, vol. 171, pp. 471-481, 2016, ISSN: 0925-2312 **(ISI Journal)** **(13 citations)**. *Journal relative impact factor: 2.083, Influence relative score: 0.866*. **Databases: ISI Web of Science.**

18. Lungu, R., **Lungu, M.**, *Application of H_2/H_∞ and Dynamic Inversion Techniques to Aircraft Landing Control.* Aerospace Science and Technology, vol. 46, pp. 146-158, 2015, ISSN: 1270-9638 **(ISI Journal)** **(22 citations)**. *Journal relative impact factor: 0.94, Influence relative score: 2.093*. **Databases: ISI Web of Science.**

19. Lungu, R., **Lungu, M.**, *Design of Automatic Landing Systems using the H-inf Control and the Dynamic Inversion.* Journal of Dynamic Systems, Measurement and Control (Transactions of

ASME), vol. 138, no. 2, 5 pp, 2016, ISSN: 0022-0434 **(ISI Journal)** **(10 citations)**. *Journal relative impact factor: 0.978, Influence relative score: 0.7.* **Databases: ISI Web of Science.**

20. Lungu, R., **Lungu, M.** *Adaptive Flight Control Law Based on Neural Networks and Dynamic Inversion for Micro Aerial Vehicles*. Neurocomputing Journal, vol. 199, pp. 40-49, 2016, ISSN: 0925-2312 **(ISI Journal)** **(5 citations)**. *Journal relative impact factor: 2.083, Influence relative score: 0.866.* **Databases: ISI Web of Science.**

21. Lungu, R., **Lungu, M.** *Automatic Landing System using Neural Networks and Radio-technical Subsystems*. Chinese Journal of Aeronautics, vol. 30, no. 1, pp. 399-411, 2017, ISSN: 1000-9361 **(ISI Journal)** **(8 citations)**. *Factor de impact revista: 1.070.* **Databases: ISI Web of Science.**

22. **Lungu, M.**, Lungu, R., *Landing Auto-pilots for Aircraft Motion in Longitudinal Plane using Adaptive Control Laws Based on Neural Networks and Dynamic Inversion*. Asian Journal of Control, vol. 19, no. 1, pp. 302-315, 2017, ISSN: 1561-8625 **(ISI Journal)** **(11 citations)**. *Journal impact factor: 1.407, Influence relative score: 0.433.* **Databases: ISI Web of Science.**

23. Lungu, R., **Lungu, M.** *Automatic control of the micro aerial vehicles' attitude and position*. International Journal of Micro Aerial Vehicles. vol. 9, no. 1, pp. X, 2017, ISSN: 1756-8293 **(ISI Journal)**. *Journal relative impact factor: 0.343.* **Databases: ISI Web of Science.**

24. **Lungu, M.**, Lungu, R. *Autonomous Adaptive Control System for Airplane Landing*. Asian Journal of Control, vol. 21, no. 3, pag. 1-14, 2019, pp. 1328-1341, ISSN: 1561-8625 **(ISI Journal)** **(4 citations)**. *Journal relative impact factor: 2.005.* **Databases: ISI Web of Science.**

25. **Lungu, M.** *Design of Reduced-Order Multiple Observers for Uncertain Systems with Unknown Inputs*. Complexity, 2018, pp. 1-14, DOI: 10.1155/2018/5231989, ISSN: 1076-2787 **(ISI Journal)** **(1 citation)**. *Journal relative impact factor: 1.829.* **Databases: ISI Web of Science, Scopus.**

26. **Lungu, M.**, Lungu, R. *Neural Network based Adaptive Control of Airplane's Lateral-directional Motion during Final Approach Phase of Landing*. Engineering Applications of Artificial Intelligence, vol. 74, 2018, pp. 322-335, ISSN: 0952-1976 **(ISI Journal)** **(4 citations)**. *Journal relative impact factor: 2.819.* **Databases: ISI Web of Science, Scopus.**

27. Ben Warrad, S., Boubaker, O., **Lungu, M.**, Mobayen, S. *Full and reduced order unknown input observer design for linear time-delay systems with multiple delays*. Mathematical Problems in Engineering, vol. 2018, ID: 1745734, 13 pp., 2018, https://doi.org/10.1155/2018/1745734, ISSN: 1024-123X, e-ISSN: 1563-5147 **(ISI Journal)** **(3 citations)**. *Journal relative impact factor: 1.145.* **Databases: ISI Web of Science, Scopus.**

28. **Lungu, M.** *Reduced-Order Multiple Observer for Takagi-Sugeno Systems with Unknown Inputs*. ISA Transactions, vol. 85, 2019, pag. 1-12, ISSN: 0019-0578 **(ISI Journal)** **(1 citation)**. *Journal relative impact factor: 4.343.* **Databases: ISI Web of Science, Scopus.**

29. **Lungu, M.** *Design of Reduced-order Multiple Observers for Takagi-Sugeno Systems with Unknown Inputs*. Measurement, vol. 134, 2019, ISSN: 0263-2241 **(ISI Journal)** **(1 citation)**, DOI: https:// doi.org/10.1016/j.measurement.2018.11.010. *Journal relative impact factor: 2.791.* **Databases: ISI Web of Science, Scopus.**

30. **Lungu, M.**, Lungu, R. *Adaptive Neural Network-based Satellite Attitude Control by using the Dynamic Inversion Technique and a VSCMG Pyramidal Cluster*. Complexity, 2019, pag. 1-16, DOI: https://doi.org/10.1155/2019/1645042, ISSN: 1076-2787 **(ISI Journal)** **(2 citations)**. *Journal relative impact factor: 2.591.* **Databases: ISI Web of Science, Scopus.**

31. **Lungu, M.** *Auto-landing of fixed wing unmanned aerial vehicles using the backstepping control*. ISA Transactions, vol. 95, 2019, pp. 194-210, ISSN: 0019-0578 **(ISI Journal)**, DOI: https:// doi.org/ 10.1016/j.isatra.2019.05.019. *Journal relative impact factor: 4.343.* **Databases: ISI Web of Science, Scopus.**

32. **Lungu, M.** *Backstepping and Dynamic Inversion Combined Controller for Auto-landing of Fixed Wing UAVs*. Aerospace Science and Technology, vol. 96, 105526, 2020, ISSN: 1270-9638 **(ISI Journal)**. *Journal relative impact factor: 2.829.* **Databases: ISI Web of Science, Scopus.**

ISI PROCEEDINGS PAPERS

1. **Lungu, M.** *Neuro-Observer with Aplication to Longitudinal Motion of an Aircraft with Big Attack Angle*. Proceedings of the 11th International Conference on Applied and Theoretical Electricity (ICATE 2012), Craiova, 25-27 October, 2012. Journal „Analele Universitatii din Craiova", Electrical Engineering Series (CNCSIS journal – B+ category), no. 36, pp. 404-409. ISSN: 1842-4805, DOI:10.1109/ICATE.2012.6403454 5117 **(ISI Proceedings)**. **Databases: ISI Web of Science, IEEE Xplore, Copernicus**.

2. **Lungu, M.** *The Estimation of an Aircraf Motions by using the Bass-Gura Full-Order Observer*. Proceedings of the 11th International Conference on Applied and Theoretical Electricity (ICATE 2012), Craiova, 25-27 October, 2012. Journal „Analele Universitatii din Craiova", Electrical Engineering Series (CNCSIS journal – B+ category), no. 36, pp. 410-414. ISSN: 1842-4805, DOI: 10.1109/ICATE.2012.6403455 5117 **(ISI Proceedings)** **(3 citations)**. **Databases: ISI Web of Science, IEEE Xplore, Copernicus.**

3. Lungu, R., Ispas, S., Iancu, M., **Lungu, M.** *Optimal Control of Helicopter Motion.* Proceedings of the 11th International Conference on Applied and Theoretical Electricity (ICATE 2012), Craiova, 25-27 October, 2012. Journal „Analele Universitatii din Craiova", Electrical Engineering Series (CNCSIS journal – B+ category), no. 36, pp. 449-453. ISSN: 1842-4805, DOI: 10.1109/ICATE.2012.6403456 5117 **(ISI Proceedings)** **(4 citations)**. **Databases: ISI Web of Science, IEEE Xplore, Copernicus**.

4. Lungu, R., Iancu, M., Ispas, S., **Lungu, M.** *Adaptive Control of the Aircraft Pitch Angular Motion by using the Dynamic Inversion Principle.* Proceedings of the 11th International Conference on Applied and Theoretical Electricity (ICATE 2012), Craiova, 25-27 October, 2012. Journal „Analele Universitatii din Craiova", Electrical Engineering Series (CNCSIS journal – B+ category), no. 36, pp. 454-458. ISSN: 1842-4805, DOI: 10.1109/ICATE.2012.6403457 5117 **(ISI Proceedings)** **(2 citations)**. **Databases: ISI Web of Science, IEEE Xplore, Copernicus.**

5. Calbureanu, M., **Lungu, M.**, Tutunea, D., Malciu, R., Dima, A., *Modeling with finite element the convective heat transfer in civil building EPS insulated walls.* Proceedings of the 10th International Conference on Applied Computer Science (ACS '10), Iwate, Japan, October 4 – 6, 2010, ISSN: 1792 – 4863, ISBN: 978-960-474-231-8 **(ISI Proceedings)** **(2 citations)**. **Databases: ISI Web of Science, Scopus, ACM.**

6. **Lungu, M.,** Lungu, R., Bacanu, Gh. *Angular stabilization systems of the rockets in vertical plane using differentiator gyroscope.* Recent Advances in Circuits, Systems and Signals, pp. 51 – 56, ISSN: 1792-4324. International Conference on Circuits, Systems and Signals (IEEE.AM - CSS), Malta, September 15-17, 2010. ISBN: 978-960-474-226-4. **(ISI Proceedings)**. **Databases: ISI Web of Science, Scopus, ACM.**

7. **Lungu, M.,** Lungu, R., Sepcu, L. *Non-linear adaptive system for the control of the aircrafts' roll angle.* Recent Advances in Circuits, Systems and Signals, pp. 39 – 44, ISSN: 1792-4324. International Conference on Circuits, Systems and Signals (IEEE.AM-CSS), Malta, September 15-17, 2010. ISBN: 978-960-474-226-4. **(ISI Proceedings)**. **Databases: ISI Web of Science, Scopus.**

8. Lungu, R., Kwatra, S., **Lungu, M.,** Grigorie, L. *The use of the hierarchical dynamic inversion to the aircrafts longitudinal movement.* Recent Advances in Circuits, Systems and Signals, pp. 34-39, ISSN: 1792-4324. International Conference on Circuits, Systems and Signals (IEEE.AM-CSS), Malta, September 15-17, 2010. ISBN: 978-960-474-226-4 **(ISI Proceedings)**. **Databases: ISI Web of Science, Scopus, ACM.**

9. Lungu, R., Borgazi, **Lungu, M.,** Popa, D., Tutunea, D., Calbureanu, M. *New methods for the simulation with finite element of the human elbow.* Recent Advances in Circuits, Systems and Signals, pp. 45-50, ISSN: 1792-4324. International Conference on Circuits, Systems and Signals (IEEE.AM-CSS), Malta, September 15-17, 2010. ISBN: 978-960-474-226-4. **(ISI Proceedings)** **(2 citations)**. **Databases: ISI Web of Science, Scopus.**

10. Grigorie T.L., Corcau J., **Lungu M.**, Sandu G.D. *Bi-Dimensional Position Detection Using TDOA Estimation through Cross Correlation of the Acoustic Signals. Part 1: Theoretical*

Background. 2009 IEEE International Conference on ICT and Knowledge Engineering. December 1-2, 2009, Siam University, Bangkok, Thailand. ISBN: 978-1-4244-4513-4 **(ISI Proceedings)** **(3 citations)**. **Databases: ISI Web of Science, IEEE Xplore database, Scopus, Compendex, Scitopia database.**

11. **Lungu, M.,** Lungu, R. *Non-linear Adaptive Controllers with Linear Dynamic Compensator and Neural Network.* Proceedings of the 11th WSEAS International Conference on Automatic Control, Modelling And Simulation (ACMOS '09), Istanbul, Turkey, May 30 - June 1, 2009, pp. 334 – 339. ISBN: 978-960-474-082-6. ISSN: 1790-5117 **(ISI Proceedings)** **(2 citations)**. **Databases: ISI Web of Science.**

12. Malciu, R., Calbureanu, M., **Lungu, M.,** Dumitru, S. *Comparison between Vibrations Transversal Displacements Analytic Determined for a Linear Elastic Connecting Rod and a Linear Viscoelastic one (After the Validation by Experiment of the Vibrations Effective).* Proceedings of the 11th WSEAS International Conference on Automatic Control, Modelling And Simulation (ACMOS '09), Istanbul, Turkey, May 30 - June 1, 2009, pp. 355 – 360. ISBN: 978-960-474-082-6. ISSN: 1790-5117 **(ISI Proceedings)** **(2 citations)**. **Databases: ISI Web of Science.**

13. Calbureanu, M., Malciu, R., **Lungu, M.,** Dumitru, S. Analytic Determination of the Accelerations of Vibrations for a Linear Viscoelastic Cinematic Element of a Crank and Connecting Rod Assembly Validated by Experiment. Proceedings of the 11th WSEAS International Conference on Automatic Control, Modelling And Simulation (ACMOS '09), Istanbul, Turkey, May 30 - June 1, 2009, pp. 349 – 354. ISBN: 978-960-474-082-6. ISSN: 1790-5117 **(ISI Proceedings)** **(1 citation)**. **Databases: ISI Web of Science.**

14. Lungu, R., **Lungu, M.**, Stoenescu, E., Calbureanu, M. *Reduced Order Observer for the Longitudinal and Lateral Movements of an Aircraft.* Proceedings of the 11th WSEAS International Conference on Automatic Control, Modelling And Simulation (ACMOS '09), Istanbul, Turkey, May 30 - June 1, 2009, pp. 328 – 333. ISBN: 978-960-474-082-6. ISSN: 1790-5117 **(ISI Proceedings)** **(4 citations)**. **Databases: ISI Web of Science.**

15. **Lungu, M.,** Lungu, R., Stoenescu, E., Grigorie, L. *Prediction State Observer for the Longitudinal and Lateral Movements of an Aircraft.* Proceedings of the 11th WSEAS International Conference on Automatic Control, Modelling And Simulation (ACMOS '09), Istanbul, Turkey, May 30 - June 1, 2009, pp. 322 – 327. ISBN: 978-960-474-082-6. ISSN: 1790-5117 **(ISI Proceedings)** **(2 citations)**. **Databases: ISI Web of Science.**

16. Dinca, L., Corcau, J., **Lungu, M.**, Tudosie, A., *Electro-hydrostatic Servo-actuators for Aircraft.* Proceedings of the 7th WSEAS International Conference on System Science and Simulation in Engineering (ICOSSSE '08), Venice, Italy, November 21-23, 2008, pp. 217 – 222. ISBN: 978-960-474-027-7. ISSN: 1790-2769 **(ISI Proceedings)** **(3 citations)**. **Databases: ISI Web of Science, ACM.**

17. Lungu, R., **Lungu, M.**, Dinca, L., Stoenescu, E. *On – line Parametric Identification and Discrete Optimal Command for the Aircrafts Longitudinal Movement.* Proceedings of the 7th WSEAS International Conference on System Science and Simulation in Engineering (ICOSSSE '08), Venice, Italy, November 21-23, 2008, pp. 211-216. ISBN: 978-960-474-027-7. ISSN: 1790-2769 **(ISI Proceedings)** **(3 citations)**. **Databases: ISI Web of Science, ACM.**

18. Calbureanu, M., Malciu, R., **Lungu, M.**, Lungu, R., *Advanced Machining Technologies for Aircraft Component Parts with Thin Walls.* Annals of DAAM & The 19th International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Next Generation of Intelligent Systems and Solutions", 22-25th October 2008, Trnava, Slovakia, pp. 189-190. ISSN: 1726-9679. ISBN: 978-3-901509-68-1 **(ISI Proceedings)**. **Databases: ISI Web of Science**.

19. Calbureanu, M., Malciu, R., **Lungu, M.**, Calbureanu, D. Aspects about the influence of the lubricant from a rectilinear pair above the work accuracy of the elastic elements from the high precision mechanisms, 12th WSEAS Int. Conf. on Engineering Mechanics, Structures, Engineering Geology (EMESEG '08) , Heraklion, Crete Island, Greece, July 22-24, 2008, pp. 209-214. ISBN: 978-960-6766-88-6, ISSN: 1790-2769 **(ISI Proceedings)** **(1 citation)**. **Databases: ISI Web of Science, Compendex**.

20. **Lungu, M.**, Lungu, R., Jula, N., Calbureanu M., Cepisca, C., *Optimal Command of Aircrafts'*

Move Using a Reduced Order Observer. 9th WSEAS Int. Conf. on Automation & Information (ICAI'08), Bucharest, Romania, June 24-26, 2008, pp. 332-337. ISBN: 978-960-6766-77-0, ISSN: 1790-5117 **(ISI Proceedings)**. **Databases: ISI Web of Science, ACM.**

21. **Lungu, M**., Lungu, R., Jula, N., Cepisca, C., Calbureanu M. *Synthesis Algorithm of the Optimal Control Law for Flying Objects' Longitudinal Move.* 9th WSEAS Int. Conf. on Automation & Information (ICAI'08), Bucharest, Romania, June 24-26, 2008, pp. 326-332. ISBN: 978-960-6766-77-0, ISSN: 1790-5117 **(ISI Proceedings)**. **Databases: ISI Web of Science, ACM**.

22. Corcau, J., Stoenescu, E., **Lungu, M.** *Comparative analysis of classical and fuzzy PI algorithms.* 7th WSEAS Int. Conf. on Artificial Intelligence, Knowledge Engineering and Data Bases (AIKED'08), University of Cambridge, UK, Feb 20-22, 2008, pp. 189-192. ISBN: 978-960-6766-41-1, ISSN: 1790-5109 **(ISI Proceedings)** **(1 citation)**. **Databases: ISI Web of Science, ACM**.

23. Lungu, R., **Lungu, M.**, Jula, N., Cepisca, C. *Stabilization Models and Structures for Move of very Maneuverable Flying Objects.* The 6th WSEAS International Conference on System Science and Simulation in Engineering (ICOSSSE '07), Venice, Italy, November 21-23, 2007, pp. 135-138. ISBN: 978-960-6766-18-3. ISSN: 1790-5117 **(ISI Proceedings)**. **Databases: ISI Web of Science, Inspec.**

24. Lungu, R., **Lungu, M.**, Jula, N., Cepisca, C. *Command Laws for Rockets' Motion Stabilisation*. The 6th WSEAS International Conference on System Science and Simulation in Engineering (ICOSSSE '07), Venice, Italy, November 21-23, 2007, pp. 159 – 162. ISBN: 978-960-6766-18-3. ISSN: 1790-5117 **(ISI Proceedings)**. **Databases: ISI Web of Science, Inspec.**

25. Lungu, R., **Lungu, M.**, Jula, N., Cepisca, C. *Neuro-adaptive optimal control system for aircrafts.* The 3-rd WSEAS International Conference on Dynamical Systems and Control' 07. Arcachon, France, October 13-15, 2007, pp. 298-301. ISBN: 978-960-6766-10-7. ISSN: 1790-5117 **(ISI Proceedings)**. **Databases: ISI Web of Science, Inspec.**

26. Lungu, R., **Lungu, M.**, Jula, N., Cepisca, C. *Models identification and adaptive control of the flying objects using neural networks.* The 3rd WSEAS International Conference on Dynamical Systems and Control' 07. Arcachon, France, October 13-15, 2007, pp. 302-306. ISBN: 978-960-6766-10-7. ISSN: 1790-5117 **(ISI Proceedings)** **(3 citations)**. **Databases: ISI Web of Science.**

27. Lungu, R., **Lungu, M.**, Jula, N., Cepisca, C. *Identification of Dynamic Non – Linear Models of Aircrafts with Big Incidence Angles.* 7th WSEAS International Conference on Systems Theory and Scientific Computation (ISTASC'07), Vouliagmeni Beach, Athens, Greece, August 24-26, 2007, pp. 239-243. ISBN: 978-960-6766-01-5. ISSN: 1790-5117 **(ISI Proceedings)**. **Databases: ISI Web of Science, Inspec, ACM.**

28**.** Lungu, R., **Lungu, M.**, Tudosie, Al. *Discrete Command Law of the Longitudinal Movement of the Aircrafts.* Conference on Military Technologies 2007, ICMT'07, Brno, Czech Republic, 2–4 May 2007, In Proceedings, pp. 324 – 329, ISBN: 978-80-7231-238-2 **(ISI Proceedings)**. **Databases: ISI Web of Science.**

29. Lungu, R., **Lungu, M.**, Corcau, J. *Aircrafts Movement Models Identification Using Neuronal Networks.* Conference on Military Technologies 2007, ICMT'07, Brno, Czech Republic, 2–4 May 2007, In Proceedings, pp. 330 – 335, ISBN: 978-80-7231-238-2 **(ISI Proceedings)**. **Databases: ISI Web of Science.**

30. Sepcu, L., Lungu, R., **Lungu**, **M.**, *Optimal Control of MAVs' Gliding Motion – Part 1: Theoretical Background*, Proceedings of the International Conference on Electronics, Computers and Artificial Intelligence (ECAI - 2013), Pitesti, Romania, June 27-29, 2013, pp. 1-6, ISBN: 978-1-4673-4935-2. **Databases: ISI Web of Science, IEEE Xplore.**

31. Sepcu, L., Lungu, R., **Lungu**, **M.**, *Optimal Control of MAVs' Gliding Motion – Part 2: Controller Design and Validation*, Proceedings of the International Conference on Electronics, Computers and Artificial Intelligence (ECAI - 2013), Pitesti, Romania, June 27-29, 2013, pp. 7-13, ISBN: 978-1-4673-4935-2. **Databases: ISI Web of Science, IEEE Xplore.**

32. Buciu, G., Tarnita, D.N., Popa, D.L., **Lungu, M.**, Miritoiu, C., Ungureanu, A. *Virtual and Experimental Studies about Human Walking. Virtual Lower Leg Environment. Innovative Design of Tibia Nail.* Applied Mechanics and Materials, vol. 657, 2014, pp. 770-774, DOI: 10.4028/www.scientific.net/AMM.657.770, ISSN: 1660-9336 **(ISI Proceedings)** **(2 citations)**.

Databases: ISI Web of Science.

33. Lungu, R., **Lungu, M.,** Ioan, M., *Determination and Control of the Satellites' Attitude by using a Pyramidal Configuration of Four Control Moment Gyros*. 12th International Conference on Informatics in Control, Automation and Robotics (ICINCO 2015), Colmar, France, July 21-23, 2015, pp. 448-456. **Databases: ISI Web of Science, IEEE Xplore**.

34. **Lungu, M.**, Lungu, R. *Reduced-Order Multiple Observer for Aircraft State Estimation during Landing*. 11th edition of the Int. Conference on Trends in Aerospace, Robotics, Manufacturing Systems, Mechanical Engineering, Bioengineering, Power and Energy Engineering, Materials Engineering, Jupiter, 29 iunie-2 iulie 2016; Applied Mechanics and Materials, vol. 841, 2014, pp. 253-259, 2016, DOI:10.4028/www.scientific.net/AMM.841.253 ISSN: 1660-9336 **(3 citations)**. **Databases: Google Scholar.**

35. **Lungu, M.**, Lungu, R., Preotu, O. *Estimation of Aircraft State during Landing by means of Multiple Observers*. 23th International Conference on Systems, Signals and Image Processing (IWSSIP 2016), 23-25 May 2016, Bratislava, Slovakia **(2 citations)**. **Databases: ISI Web of Science, IEEE Xplore.**

36. **Lungu, M.**, Lungu, R., Grigorie, L., Preotu, O. *The Influence of Atmospheric Turbulences on Aircraft Landing Process*. International Conference on Applied and Theoretical Electricity – ICATE 2016 **(ISI Proceedings)** **(2 citations)**. **Databases: ISI Web of Science, IEEE Xplore.**

37. **Lungu, M.**, Lungu, R., Tutunea, D. *Control of Aircraft Landing using the Dynamic Inversion and the H-inf Control*. 17th International Carpathian Control Conference (ICCC 2016), Tatranská Lomnica, Slovak Republic, May 29 - June 1, 2016, pp. 461-466 **(ISI Proceedings)** **(6 citations)**. **Databases: ISI Web of Science, IEEE Xplore, Scopus.**

38. **Lungu, M.**, Lungu, R., Ioan, M. *Automatic Control of the Satellites' Attitude and Stored Energy using Inertial Wheels*. 17th International Carpathian Control Conference (ICCC 2016), Tatranská Lomnica, Slovak Republic, May 29 - June 1, 2016, pp. 455-460 **(ISI Proceedings)**. **Databases: ISI Web of Science, IEEE Xplore, Scopus.**

39. **Lungu, M.**, Lungu, R. *The Control of Airplane Landing in Longitudinal and Lateral-directional Planes by using the H-inf Control*. 18th International Carpathian Control Conference (ICCC 2017), Sinaia, România, May 28-31, 2017 **(ISI Proceedings)**. **Databases: ISI Web of Science, IEEE Xplore, Scopus.**

40. **Lungu, M.**, Lungu, R. *Complete Landing Autopilot having Control Laws Based on Neural Networks and Dynamic Inversion*. 18th International Carpathian Control Conference (ICCC 2017), Sinaia, România, May 28-31, 2017 **(ISI Proceedings)**. **Databases: ISI Web of Science, IEEE Xplore, Scopus.**

41. **Lungu, M.**, Berbente, S. *Full-order Multiple Observer with Applications to Airplane Landing*. Int. Conference on Control, Artificial Intelligence, Robotics and Optimization (ICCAIRO), Praga, 19-21 May 2018 **(ISI Proceedings)**. **Database: ISI Web of Science, IEEE Xplore.**

42. Lungu, R., Buţu, F.A., **Lungu, M.** *Sliding Mode Control of Launch Vehicles' Flight Path Slope Angle*. 26th Mediterranean Conference on Control and Automation, June 19-22, 2018 **(ISI Proceedings)**, Zadar, Croatia, pag. 553-558. **Databases: ISI Web of Science, IEEE Xplore, Google Scholar**.

43. **Lungu, M.**, Boubaker, O., Lungu, R. *Reduced-Order Multiple Observer Design for Takagi-Sugeno Models with Unknown Inputs*. 26th Mediterranean Conference on Control and Automation, June 19-22, 2018, Zadar, Croatia, pp. 559-564. **Databases: ISI Web of Science, IEEE Xplore, Google Scholar.**

44. **Lungu, M.**, Boubaker, O., Lungu, R. *Multiple Observer with Applications to Landing in Lateral-Directional Plane*. 20th International Carpathian Control Conference (ICCC 2019), Kraków-Wieliczka, Poland, 26-29 May 2019 **(ISI Proceedings)**. **Databases: ISI Web of Science, IEEE Xplore.**

45. **Lungu, M.**, Lungu, R., Buţu, A.F. *Reduced-order Multiple Observer with Application to the State Estimation of a Controlled Generic Reentry*. IEEE International Symposium on Systems Engineering, October 1-3, 2018 **(ISI Proceedings)**, Rome, Italy. **Databases: ISI Web of Science, IEEE Xplore, Google Scholar.**

46. Lungu, R., Buţu, A.F., **Lungu, M.** *Automatic Control of SpaceVehicles' Orbit around Earth*. IEEE International Symposium on Systems Engineering, October 1-3, 2018 (**ISI Proceedings**), Rome, Italy. **Databases: ISI Web of Science, IEEE Xplore, Google Scholar.**
47. Lungu, R., Buţu, A.F., **Lungu, M.** *Flight control of a launch vehicle using the hierarchical structured dynamic inversion with three time-scales*. IEEE International Symposium on Systems Engineering, October 1-3, 2018 (**ISI Proceedings**), Rome, Italy. **Databases: ISI Web of Science, IEEE Xplore, Google Scholar.**

PAPERS PUBLISHED TO CONFERENCES INDEXED BY ERA (The Excellence in Research for Australia) AND BDI INDEXED

1. **Lungu, M.**, Lungu, R., Grigorie L., *Automat Control of the Aircrafts' Lateral Movement using the Dynamic Inversion.* International Conference on Mechanical, Industrial and Aerospace Engineering (ICMIAE 2011), July 27-29, Paris, France, World Academy of Science, Engineering and Technology, Issue 79, Year 7, pp. 381 – 388, ISSN: 2010-376X (**Conference indexed in ERA**). **Databases: ERA, Scopus.**
2. **Lungu, M.**, *Stabilization and control of a UAV flight attitude angles using the backstepping method,* International Conference on Modeling and Simulation (ICMS 2012), January 15-17, 2012, Zurich, Switzerland, World Academy of Science, Engineering and Technology, Issue 61, January 2012, pp. 299-306, ISSN: 2010-376X (**Conference indexed in ERA**) (**10 citations**). **Databases: ERA, Scopus.**
3. **Lungu, M.**, Lungu, R., Grigorie, L., *Aircrafts State Estimation by using an Adaptive Observer for MIMO Linear Time Varying Systems*. IEEE International Conference on High Performance Computing & Simulation (HPCS 2012), July 2-6, 2012, Madrid, Spain, pp. 648-653 (**Conference indexed in ERA**) (**1 citation**). **Databases: ERA, Scopus, IEEE Xplore, Scopus.**

PAPERS PUBLISHED IN PROCEEDINGS/ JOURNALS INDEXED IN DATABASES

1. **Lungu, M.**, Lungu, R. *Landing Autopilot for the Control of Airplane by using the H-inf Control*. 12th International Conference on Aerospace, Robotics, Mechatronics, Mechanical Engineering, Manufacturing systems, Neurorehabilitation and Bioengineering (OPTIROB), June 29- July 3, 2017, Jupiter. International Journal of Modeling and Optimization (IJMO), vol. 7, nr. 3, 2017, ISSN: 2010-3697. **Databases: Google Scholar, ResearchGate.**
2. **Lungu, M.** *Automatic control of aircraft landing by using the H_2/H_∞ control technique*. The 36th IASTED International Conference on Modelling, Identification and Control (*MIC 2017*), February 20-21, 2017, Innsbruck, Austria, DOI: 10.2316/P.2017.848-004, pp. 222-229. **Databases: Scopus, ResearchGate, Acta Press.**
3. Lungu, R., **Lungu, M.**, Ioan, M., *Nonlinear Automatic Control of the Satellites by using the Quaternion and the Angular Velocities' Vectors*. 3rd International Workshop on Numerical Modelling in Aerospace Sciences (NMAS 2015), Bucharest, May 6-7, 2015. INCAS Bulletin, vol. 7, no. 2, pp. 93-103, ISSN: 2066-8201. **Databases: Copernicus.**
4. Sepcu, L., Negrea, P**., Lungu, M**., Lungu, R., *Controllability and longitudinal movement stability of an insect-type micro air vehicle*. Scientific Bulletin – University "Politehnica" Bucharest, Series D: Mechanical Engineering, vol. 77, nr. 2, 2015, pag. 59-70, ISSN: 1454-2358. **Databases: Copernicus.**
5. Ioan, M., **Lungu, M.**, Lungu, R., *Control of the Satellites' Attitude using a Pyramidal Configuration of Four Variable Speed Control Moment Gyros*. Scientific Bulletin – University "Politehnica" Bucharest, Series D: Mechanical Engineering, vol. 79, nr. 2, 2017, pp. 59-70, ISSN: 1454-2358. **Databases: Scopus, Copernicus.**
6. **Lungu, M.**, Lungu, R. *State Estimation of the Controlled Generic Reentry Vehicles via Multiple*

Observer. 16th International Conference on Mechatronics – Mechatronika 2014, December 3-5, 2014, Brno, Czech Republic. **Databases: Google Scholar.**

7. **Lungu, M.**, Lungu, R., Sepcu, L., *Multiple Observer with Application to Aircraft Longitudinal Motion*. 18th IEEE Int. Conference on System Theory, Control and Computing, Sinaia, Romania, 17-19 October, 2014, pp. 749-54, ISBN: 978-1-4799-4602-0. **Databases: Google Scholar.**

8. Calbureanu, M., Malciu, R., Albota, E., Ionescu, A., **Lungu, M.**, *Contributions above the Influence of the Strong Vrancea Earthquakes in Oltenia Region by Processing the Seismic Recording during Seismic Motions from 1986 and 1990*. International Journal of Geology, ISSN: 1998-4499. **Databases: Copernicus.**

9. Tutunea, D., Calbureanu, M., **Lungu, M.**, *The computational fluid dynamics (CFD) study of fluid dynamics performances of a resistance muffler*. International Journal of Mechanics, ISSN: 1998-4448 **(4 citations)**. **Databases: Scopus**.

10. Calbureanu, M., Malciu, R., Tutunea, D., Ionescu, A., **Lungu, M.**, *The finite element analysis of the thermal stress distribution of a piston head*. International Journal of Mechanics, vol. 7, nr. 4, 2013, pag. 467-474, ISSN: 1998-4448 **(15 citations)**. **Databases: Scopus**.

11. Tutunea, D., Calbureanu, M., **Lungu, M.**, *Computational fluid dynamics analysis of a resistance muffler*, Proceedings of the 11th International Conference on Heat Transfer, Thermal Engineering and Environment (HTE'13), Athens, Greece, 14-16 May 2013, ISBN: 978-1-61804-183-8. Recent Advances in Fluid Mechanics and Heat & Mass Transfer, ISSN: 2227-4596 **(6 citations)**, pp. 31-34. **Databases: Scopus**.

12. **Lungu, M.**, Mastorakis, N., Grigorie, L. *Automat Control of the Flight Altitude Using the Dynamic Inversion and the Influence of Wind Shears and Sensors' Errors on the Aircrafts' Landing Process*. 7th WSEAS International Conference on Dynamical Systems and Control, 1–3 July, 2011, Iasi, Romania; vol. Recent Researches in Computational Techniques, Non-linear Systems and Control, pp. 97-104, ISBN: 978-1-61804-011-4. **Databases: Scopus, ACM.**

13. Grigorie, L., Corcau, J. **Lungu, M.**, Edu, I., Obreja, R., *Precision improvement for a tunneling accelerometer by using an intelligent controller to close its loop*. 12th IEEE International Symposium on Computational Intelligence and Informatics (CINTI 2011), 21–22 November, 2011, Budapest, Hungary, ISBN: 978-1-4577-0044-6, DOI: 10.1109/CINTI.2011.6108509, pp. 253 – 258 **(3 citations)**. **Databases: IEEE Xplore database, Scopus.**

14. Grigorie, L., **Lungu, M.**, Edu, I.R., Obreja, R. *Miniature Accelerometer Precision Improvement Using Intelligent Control*. 6th IEEE Int. Symposium on Applied Computational Intelligence and Informatics (SACI 2011), May 19-21, 2011, Timisoara, Romania. **Databases: IEEE Xplore database, Scopus**.

15. Grigorie, T.L., **Lungu, M.**, Edu, I.R., Obreja, R. *Concepts for error modelling of miniature gyros used in inertial navigation systems*. International Conference on Mechanical Engineering, Robotics and Aerospace (ICMERA 2010), December, 2-4 2010, Bucharest, Romania. ISBN: 978-1-4244-8867-4. **Databases: Scopus.**

16. Grigorie, T.L., **Lungu, M.**, Corcau, J., Edu, I.R., Obreja, R. *Miniaturised Strap-Down Gyro Performance Improvement through On-Line Bias Correction over Temperature*. International Conference on Mechanical Engineering, Robotics and AeroSpace (ICMERA 2010 December, 2 – 4 2010, Bucharest, Romania. ISBN: 978-1-4244-8867-4. **Databases: Scopus.**

17. **Lungu, M.**, Lungu, R., Grigorie L., *Automatic Command Systems for the Flight Direction Control during the Landing Process*. 3rd IEEE International Symposium on Logistics and Industrial Informatics (LINDI 2011), August 25-27, Budapest, Hungary, ISBN: 978-1-4577-1840-3, DOI: 10.1109/LINDI.2011.6031131, pp. 117-122. **Databases: IEEE Xplore database.**

18. Grigorie, T.L., **Lungu, M.**, Edu, I.R., Obreja, R. *Concepts for error modeling of miniature gyros used in inertial navigation systems*. International Conference on Mechanical Engineering, Robotics and AeroSpace (ICMERA 2010), 2 – 4 dec. 2010, Bucuresti, Romania. ISBN: 978-1-4244-8867-4. **Databases: IEEE Xplore database.**

19. Calbureanu, M., Malciu, R., Tutunea, D., Ionescu, A., **Lungu, M.**, *Finite Element Modeling of a Spark Ignition Engine Piston Head*, Proceedings of the 11th International Conference on Heat Transfer, Thermal Engineering and Environment (HTE'13), Athens, Greece, 14-16 May 2013,

ISBN: 978-1-61804-183-8. Recent Advances in Fluid Mechanics and Heat & Mass Transfer, ISSN: 2227-4596, pp. 61-64 **(4 citations)**. **Databases: Compendex**.

20. Calbureanu, M., Malciu, R., Alboteanu, E., Ionescu, A., **Lungu, M.**, *Processing of the Accelerographic Recording Obtained in Oltenia Region during Strong Vrancea Earthquakes*, Proceedings of the 11th International Conference on Heat Transfer, Thermal Engineering and Environment (HTE'13), Athens, Greece, 14-16 May 2013. Recent Advances in Fluid Mechanics and Heat & Mass Transfer, ISSN: 2227-4596, pp. 65-70. **Databases: Scopus.**

21. **Lungu, M.**, *The influence of the Wind Shears and Sensor Errors upon Aircrafts Landing Process*. WSEAS Transactions on Advances in Engineering Education, Issue 12, Volume 7, December 2010, ISSN: 1790-1979 **(2 citations)**. **Databases: Compendenx/Scopus, ACM.**

22. **Lungu, M.**, *New non-linear adaptive command system for the aircrafts' attitude control*. Published in the Journal International Journal of Circuits, Systems and Signal Processing - N.A.U.N, Issues 1, Volume 5, 2011, pp. 19-28. ISSN: 1998-4464 **(1 citation)**. **Databases: Scopus.**

23. **Lungu, M.**, *The stabilization and identification of the rockets' movement in vertical plane.* International Journal of Circuits, Systems and Signal Processing - N.A.U.N, Issues 1, Volume 5, 2011, pp. 9 - 18. ISSN: 1998 – 4464. **Databases: Scopus.**

24. **Lungu, M.**, Lungu, R., Mastorakis, N., Fariseu, R. The Stabilization of the Rockets Using a Control System Including a Differentiator Gyroscope, an Accelerometer and a Correction Subsystem. International Conference of the Institute for Environment, Engineering, Economics and Applied Mathematics (IEEEAM) - Mathematical Models for Engineering Science (MMES'10), 30 November - 2 December 2010, Puerto De La Cruz, Tenerife**, pp. 37-43, ISBN: 978-960-474-252-3, ISSN: 1792-6734. **Databases: Compendex, Scopus, ACM.**

25. Lungu, R., **Lungu, M.,** Mastorakis, N., Calbureanu, M. *Rockets' Stabilization Using a Control System Including an Integrator Gyroscope, an Accelerometer and a Correction Subsystem.* International Conference of the Institute for Environment, Engineering, Economics and Applied Mathematics (IEEEAM) - Mathematical Models for Engineering Science (MMES' 10), 30 November – 2 December 2010, Puerto De La Cruz, Tenerife pp. 44 – 50, ISBN: 978-960-474-252-3, ISSN: 1792-6734. **Databases: Compendex, Scopus, ACM.**

26. Calbureanu, M., Talu, M., Travieso-Gonzales, C., Talu, St., **Lungu, M.,** Malciu, R. *The Finite Element Analysis of Water Vapour Diffusion in a Brick with Vertical Holes.* International Conference of the Institute for Environment, Engineering, Economics and Applied Mathematics (IEEEAM) - Mathematical Models for Engineering Science (MMES'10), 30 November – 2 December 2010, Puerto De La Cruz, Tenerife pp. 57 – 62, ISBN: 978-960-474-252-3, ISSN: 1792-6734 **(1 citation)**. **Databases: Compendex, Scopus, ACM.**

27. **Lungu, M.,** Lungu, R., Calbureanu, M., Sepcu, L. *Static system for the automatic control of the aircraft yaw's angle with proportional – derivative control law.* Annals of DAAM & The 21th International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Interdisciplinary Solutions", 20-23 October 2010, Zadar, Croatia, ISSN: 1726-9679. ISBN: 978-3-901509-73-5. **Databases: Compendex/Scopus, ACM**

28. **Lungu, M.,** Lungu, R., Sepcu, L., Calbureanu, M. *Automatic control system of the aircraft yaw's angle using a proportional – integrator – derivative control law.* Annals of DAAM & The 21th International DAAAM Symposium "Intelligent Manufacturing & Automation: Focus on Interdisciplinary Solutions", 20-23 October 2010, Zadar, Croatia, ISSN: 1726-9679. ISBN: 978-3-901509-73-5. **Databases: Compendex/Scopus, ACM.**

29. Grigorie, L., **Lungu, M.**, Negrea, P., Baziukaite, D. *The compensation of the thermocouples cold junction temperature variation errors using a neuro – fuzzy controller.* International Conference on Applied Computer Science (IEEE.AM - ACS), Malta, September 15-17, 2010, pp.72-77, ISSN: 1792-4863, ISBN: 978-960-474-225-7. **Databases: Compendex/Scopus.**

30. Lungu, R., Bekiarski, A., **Lungu, M.**, Calbureanu, M. *The Use of the Hierarchical Structured Dynamic Inversion to the Aircrafts Lateral Movement.* Latest Trends on Systems (Volume 1), pp. 71-77, ISSN: 1792-4235. The 14th WSEAS International Conference on Systems, Corfu, Greece, July 22-24, 2010. ISBN: 978-960-474-199-1. Databases: Compendex/Scopus, ACM.

31. **Lungu, M.**, *Aircrafts' control and command using hierarchical dynamic inversion.* Published in

Rev. WSEAS Transactions on Systems and Control, Issue 10, Volume 5, October 2010, pp. 792 – 801. ISSN: 1991-8763 **(3 citari)**. **Databases: Scopus, Compendex**.

32. Lungu, R, **Lungu, M.**, Dinca, L., Stoenescu, E. *On-line Parametric Identification and Discrete Optimal Command of the Flying Objects' Move*. Published in the Journal International Journal of Circuits, Systems and Signal Processing - N.A.U.N, Issues 4, Volume 2, 2008, pp. 274-283. ISSN: 1998-4464. **Databases: ACM, www.naun.org.**

33. Calbureanu, M., Malciu, R., **Lungu, M.**, Calbureanu, D., *The influence of the lubricant from a rectilinear pair above the work accuracy of the elastic elements from the high precision mechanisms.* Published in Rev. WSEAS Transactions on Applied and Theoretical Mechanics, Issue 5, Volume 3, May 2008, pp. 176-185 **(1 citation)**. **Databases: Scopus, Compendex**.

34. Dinca, L., Corcau, J., **Lungu, M**, Tudosie, A. *Mathematical Models and Numerical Simulations for Electro-Hydrostatic Servo-Actuators*. Published in the Journal International Journal of Circuits, Systems and Signal Processing - N.A.U.N**,** Issues 4, Volume 2, 2008, pp. 229-238. ISSN: 1998 – 4464 **(6 citations)**. **Databases: Google Scholar, www.naun.org**

35. Jula, N., **Lungu, M.**, Ursu, T., Cepisca, C., Racuciu, C., Raducanu, D. *Theoretical and Practical Aspects for Study and Optimization of the Aircrafts' Electro Energetic Systems.* Published in the Journal WSEAS Transactions on Circuits and Systems, Issue 12, Volume 7, December 2008, pp. 999-1008. ISSN: 1109-2734 **(2 citations)**. **Databases: Compendex, Scopus, ACM**.

36. **Lungu, M**, Lungu, R., Jula, N., Calbureanu, M., Cepisca, C., *Optimal Control of Flying Objects' Move After Estimated State Vector Using a Reduced Order Observer.* Published in the Journal WSEAS Transactions on Circuits and Systems, Issue 6, Volume 7, June 2008, pp. 502-511. ISSN: 1109-2734 **(1 citation)**. **Databases: Compendex, Scopus, ACM.**

37. **Lungu, M**, **Lungu**, R., Jula, N., Cepisca, C., Calbureanu, M. *Aspects Regarding a New Method for the Optimal Law's Synthesis of Aircrafts' Move*. Published in the Journal WSEAS Transactions on Circuits and Systems, Issue 6, Volume 7, June 2008, pp. 492-501. ISSN: 1109-2734. **Databases: Compendex, Scopus, ACM**.

38. Lungu, R, **Lungu, M.**, Jula, N., Cepisca, C. *Systems for Move Stabilisation and for Aircrafts and Rockets Flight Optimization.* Published in the Journal WSEAS Transactions on Circuits and Systems, Issue 7, Volume 7, July 2008, pp. 678-687. ISSN: 1109-2734. **Databases: Compendex, Scopus, ACM.**

39. **Lungu, M**, Lungu, R., Jula, N., Cepisca, C. *Neuro - Adaptive Command Systems very maneuverable flying objects.* Published in the Journal WSEAS Transactions on Circuits and Systems, Issue 7, Volume 7, July 2008, pp. 668-677. ISSN: 1109-2734. **Databases: Compendex, Scopus, ACM**.

40. Preotu, O., Dumitrache, Al., **Lungu, M.** *Common aspects and differences in the behavior of classical configuration versus canard configuration aircraft in the presence of vertical gusts, assuming the hypothesis of an elastic fuselage.* International Conference of Aerospace Sciences "AEROSPATIAL 2010", Sectiunea 2, Bucharest 20 – 21 October, 2010, ISSN: 2067-8622*.* INCAS BULLETIN, vol. 3, Issue 2/2011, pp. 65-75, ISSN: 2066-8201. **Database: Copernicus.**

PAPERS PUBLISHED IN PROCEEDINGS/ CNCSIS JOURNALS – B+ CATEGORY

1. Grigorie, T.L., **Lungu, M.**, Edu, I.R., Obreja, R., *Closed loop high-precision accelerometer with smart control*, Scientific Bulletin of The "POLITEHNICA" University of Timisoara, Romania, Transactions on Automatic Control and Computer Science (**CNCSIS journal – B+ category)**, vol. 57, no. 71, 2012, ISSN 1224-600X. **Databases: Copernicus database, VINITI - All-Russian Institute of Scientific and Technical Information.**

2. **Lungu, M.** *Rockets' stabilization control systems using differentiator or integrator gyroscopes*. Proceedings of the 10th International Conference on applied and Theoretical Electricity ICATE 2010, Craiova, 8-9 October, 2010. Published in „Analele Universitatii din Craiova", Electrical Engineering Series (**CNCSIS journal – B+ category**), no. 34, pp. 255-260. ISSN: 1842-4805.

Databases: Copernicus database.

3. Lungu R., **Lungu, M.** *The study of the automatic system for the sealed cabins airflow regulation using indirectly action airflow regulators.* Proceedings of the 10th International Conference on applied and Theoretical Electricity ICATE 2010, Craiova, 8-9 October, 2010. Published in „Analele Universitatii din Craiova", Electrical Engineering Series (**CNCSIS journal – B+ category**), no. 34, 261-266. ISSN: 1842-4805. **Databases**: **Copernicus database**.

4. Grigorie, L., **Lungu, M.**, Edu, I. R., Obreja, R. *Concepts error modelling of miniature accelerometers used in inertial navigation systems.* Proceedings of the 10th International Conference on applied and Theoretical Electricity ICATE 2010, Craiova, 8-9 October, 2010. Published in „Analele Universitatii din Craiova", Electrical Engineering Series (**CNCSIS journal – B+ category**), no. 34, 212-219. ISSN: 1842-4805 **(2 citations)**. **Databases**: **Copernicus.**

PAPERS PUBLISHED IN PROCEEDINGS/
CNCSIS JOURNALS – B CATEGORY

1. Grigorie, L., **Lungu, M.**, Edu, R.I., Obreja, R. *A tool for the aircrafts attitude determination.* International Conference NAV-MAR-EDU 2011, Constanta, 11-13 November 2011. Paper published in "Buletinul Stiintific al Academiei Navale", ISSN 1454-864 (**CNCSIS journal – B category**).

2. **Lungu, M.** *Aircrafts' move stabilization using optimal criteria and linear state observers.* 9th International Conference on Applied and Theoretical Electricity ICATE 2008, Craiova, 9-11 October, 2008. Published in „Analele Universitatii din Craiova", Electrical Engineering Series (**CNCSIS journal – B category**), no. 32, pp. 267-272. ISSN: 1842-4805 **(1 citation)**. **Databases: Copernicus database**.

3. Lungu, R., **Lungu, M.** *Neuro – adaptive command systems for rockets' move.* 9th International Conference on Applied and Theoretical Electricity ICATE 2008, Craiova, 9-11 October, 2008. Published in „Analele Universitatii din Craiova", Electrical Engineering Series (**CNCSIS journal – B category**), no. 32, pp. 261-266, ISSN: 1842-4805. **Databases: Copernicus database**.

4. Lungu, R., **Lungu, M.** *On – line Parametric Identification and Discrete Optimal Command of Flight Objects.* 6th International Conference on Electromechanical and Power Systems – SIELMEN 2007, Chisinau, Moldova Republic; Published in „Analele Universitatii din Craiova", Electrical Engineering Series (**CNCSIS journal – B category**), no. 31, 2007, vol.1, pp. 117-119, ISSN: 1842 – 4805. **Databases: Google Scholar.**

5. Lungu, R., **Lungu, M.** *Optimal Control of The Rocket's Lateral Deviation in Rapport with Equal Signal Line.* 6th International Conference on Electromechanical and Power Systems – SIELMEN 2007, Chisinau, Moldova Republic; published in „Analele Universitatii din Craiova", Electrical Engineering Series (**CNCSIS journal – B category**), no. 31, 2007, vol.1, pp. 120-123, ISSN: 1842 – 4805.

6. **Lungu M.** *Parameters Estimation on the Aircraft's Longitudinal and Lateral Move.* 8th International Conference on Applied and Theoretical Electricity ICATE 2006, Baile Herculane, October 26-28, 2006. Published in „Analele Universitatii din Craiova", Electrical Engineering Series (**CNCSIS journal – B category**), no. 30, pp. 370-376, ISSN: 1842-4805 **(1 citation)**.

PAPERS PUBLISHED IN THE PROCEEDINGS
OF OTHER INTERNATIONAL CONFERENCES

1. Ciunel, S., Dumitru, N., Tica, B., Popa, D., Popa-Mitroi, Gh., **Lungu, M.,** *Analysis and dynamic human cranio-cervical complex movements*, 3th International Congress Science and Management of Automotive and Transportation Engineering, 23-26 October 2014, Craiova, Romania

2. **Lungu, M.,** Lungu, R., Sepcu, L. *Nonlinear Adaptive System for the Automatic Control of Rockets' Motion in Vertical Plane,* International Conference in Military Technology Proceeding, ICMT'13, Brno, 2013, pp. 717-726. ISBN: 978-80-7231-917-6.

3. **Lungu, M.,** Lungu, R., Sepcu, L. *Adaptive Observer Based on an Orthogonal Neural Network for the Estimation of the Aircraft's Longitudinal Motion*, International Conference in Military Technology Proceeding, ICMT'13, Brno, 2013, pp. 727-734. ISBN: 978-80-7231-917-6.

4. Grigorie, T.L., **Lungu, M.**, Edu, I.R., Obreja, R. *Influences of the Miniaturized Inertial Sensors Errors on the Navigation Solution in a Bidimensional SDINS in Vertical Plane*. 4th International Conference Computational Mechanics and Virtual Engineering (COMEC 2011), Transilvania University of Brasov, 20 – 22 October 2011, Brasov, Romania **(5 citations)**.

5. Grigorie, T.L., **Lungu, M.**, Edu, I.R., Obreja, R. *Analysis of the Miniaturized Inertial Sensors Stochastic Errors with the Allan Variance Method: A Review*. International Conference of Aerospace Sciences "AEROSPATIAL 2010", Section 5, Bucharest 20 – 21 October, 2010, ISSN: 2067-8622.

6. Grigorie, T.L., Corcau, J., **Lungu, M.**, Sandu, G.D. *Bi-Dimensional Position Detection Using TDOA Estimation through Cross Correlation of the Acoustic Signals*. *Part 2: Experimental testing and validation*. 2009 IEEE International Conference on ICT and Knowledge Engineering. December 1-2, 2009, Siam University, Bangkok, Thailand. ISBN: 978-1-4244-4513-4.

7. **Lungu, M.** *Dynamic Process Analysis and Linear Non-dimensional Model's Parameters Estimation of the Longitudinal Move of an Aircraft.* 5th International Conference on Advanced Engineering Design 11 - 14 June 2006, Prague, Czech Republic, CD – 5 pp., ISBN: 80-86059-44-8 **(1 citation)**.

8. Lungu, R., Dinca, L., **Lungu, M.** *Dynamical Errors Calculus of Some Rockets Guidance Systems Using the Direct Method in Three Points.* The 3th International Conference on Advanced Engineering Design, Prague, June 1 – 4, 2003, CD – 6 pp.

9. Lungu, R., Tudosie, A., **Lungu, M.** *Flight Optimization System Based on the Fuel Consumption Minimization Criteria.* The International "Community Army Technology Environment 2003", April 28 – 30, 2003, Military Academy in Brno, CD – 8 pp.

10. Lungu, R., Tudosie, A., **Lungu, M.** *Analysis of Non - linear Dynamic Regimes Using Structural Transformation.* Forth International Conference on Modelling and Simulation, November 11 – 13, 2002, Melbourne – Australia, CD – 4 pp.

11. Lungu, R., Dinca, L., **Lungu, M.** *Calculus Elements for Dimensioning Hydraulic Servo-Amplifiers.* The International Congress on "Simulators and Simulations-Powerful Means for Training of Individuals and Crews of Combat Systems", Brno, May 9 – 11, 2001. Published in Military Academy in Brno Revue, No. 2, 12 pp.

12. Lungu, R., **Lungu, M.** *Neural Networks' Use for Off-line Identification of Flying Objects' Models Identification.* The XV-th International Symposium on Electrical Apparatus and Technologies, 31 May - 1 June 2007, Plovdiv, Bulgaria, vol. 2, pp. 57-62, ISBN: 978-954-9726-01-5. **Databases: Scopus.**

13. Grigorie, L., **Lungu, M.**, Georgescu, A. *Aircraft's Attitude Determination using Board Computer and Strap-down Gyros.* The 7-th International Conference of Applied and Theoretical Electricity ICATE 2004, Baile Herculane, October 14-15, In Proceedings, pp. 539-542, ISBN: 973-8043-554-4.

14. Lungu, R., Tudosie, A., **Lungu, M**. *A Possibility of an Airplane's Lateral Movement's Control.* The 7th International Conference of Applied and Theoretical Electricity ICATE 2004, Baile Herculane, October 14-15, pp. 552-557.

15. Lungu, R., Corcau, J., **Lungu, M.** *Gyroscopic Stabilization System with Kalman – Bucy State Estimator.* XIII – th International Symposium on Electrical Apparatus and Tehnologies, 29 – 30 May 2003, Plovdiv, Bulgaria, pp. 129 – 134.

16. Lungu, R., **Lungu, M.** *Extremal System for Rockets' Guidance.* The XV–th International Symposium on Electrical Apparatus and Technologies, 31 May – 1 June 2007, Plovdiv, Bulgaria, vol. 2, pp. 63-68, ISBN: 978-954-9726-01-5. **Databases: Scopus.**

17. Lungu, R., Tudosie, A., **Lungu, M.** *Jet engine's temperature control unit. International Conference on Applied and Theoretical Electricity.* Craiova/Baile Herculane, October 17-19, 2002, pp. 446-448, ISBN: 973-8043-169-9.

18. Lungu, R., Grigorie, L., **Lungu, M.** *Electronic Control System of the Aircraft Control Linkage*

Ratio. The XII-th International Symposium on Electrical Apparatus and Technologies – SIELA. In Proceedings, volume I, pp. 197-205, Plovdiv, Bulgaria, 31 May – 1 June, 2001.

19. Lungu, R., **Lungu M.** *Extremal Stabilisation Systems for Rockets' Roll Move.* Conferinta internationala "Tendinte in dezvoltarea aplicatiilor ciberneticii", Baile Felix, 26-27 november 2004, CD – 6 pp.

20. Malciu, T., Sepcu L., **Lungu M.**, Malciu R. *The use of the four-bar mechanism to the air vehicles' flapping wing.* International Conference of Mechanical Engineering, ICOME 2010, Craiova, April 28-30, 2010.

21. Malciu, T., Malciu R., Calbureanu, M., **Lungu M.**, Sepcu L. *Flexible manufacturing approach of a part in an integrated manufacturing environment.* International Conference of Mechanical Engineering, ICOME 2010, Craiova, April 28-30, 2010.

22. **Lungu, M.** *Calculul vitezelor de apropiere si deviatie de la linia tintei.* The International Symposium on Naval and Marine Education. NAV·MAR·EDU 2001, Section Military Sciences, pp. 113-119 in Proceedings; "Mircea cel Batran", Constanta, May 24-26, 2001.

PAPERS PUBLISHED IN THE PROCEEDINGS
OF NATIONAL CONFERENCES

1. **Lungu, M.** *Sisteme de control a atitudinii avionului in miscarea de tangaj.* Sesiunea de comunicari stiintifice "Eficienta si calitate in invatamantul superior", Sibiu, June 11, 2004, CD – 8 pp., ISBN: 973-8088-87-9.

2. **Lungu, M.** *Teoria problemei cuadratice liniare (LQP) si aplicarea ei in cazul miscarii avionului solicitat la incovoiere.* Sesiunea de comunicari stiintifice "Eficienta si calitate in invatamantul superior", Sibiu, June 11, 2004, CD – 8 pp., ISBN: 973-8088-87-9.

3. Lungu, R., Constantinache, P., **Lungu, M.** *Analiza stabilitatii si sinteza unui sistem de comanda automata a unghiului de ruliu al aeronavelor.* Sesiunea jubiliara de comunicari stiintifice "130 de ani de invatamant de marina" Academia Navala "Mircea cel Batran", Constanta, November 14-16, 2002, pp. 145-149.

4. Sepcu, L., **Lungu, M.**, Calbureanu, M., *Thermic calculus of aircraft's cabin*, Published in „Analele Universitatii din Craiova", Mechanical Series (CNCSIS journal – D category), no. 1/2009. ISSN: 1223-5296.

5. Sepcu, L., **Lungu, M.**, Malciu, R., *Mathematical model of the cabin and the bottom of the coating cabin's heat calculus*, Published in „Analele Universitatii din Craiova", Mechanical Series (CNCSIS journal – D category), no. 1/2009. ISSN: 1223-5296.

Assoc. Prof. PhD. Eng. Habil. Mihai LUNGU

RESEARCH GRANTS WON WITHIN NATIONAL COMPETITIONS

1. **COMISIS - Computational methods in scientific investigation of space.** Space Technology and Advanced Research - Program for Research, Development and Innovation; colaboration with European Space Agency (ESA) – 2013-2016. Coordinator institute: West University of Timisoara. Grant director: Prof. PhD. Vulcanov Dumitru. Grant funds: 1.000.000 RON. Financial source: Education Minsiter and ESA.
   The role in the research grant: Responsible from University of Craiova.

2. **STS – System for sub-orbital testing, launching infrastructure development, flight tests.** Program PN-II – Partnerships in priority domains – 2014-2016. Coordinator institute: University Politehnica Bucharest. Grant director: Prof. PhD. Eng. Chelaru Teodor Viorel. Grant funds: 1.743.473 RON. Financial source: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI).
   The role in the research grant: Responsible from University of Craiova.

3. **Modern architectures for the control of aircraft landing.** Program PN II – Human Resources (2015-2017) – Young Teams. Coordinator institute: University of Craiova. Grant funds: 521.695.000 RON. Financial source: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI).
   The role in the research grant: Project manager

4. **COMASS - Computational Methods in Astrophysics and Space Sciences.** Space Technology and Advanced Research - Program for Research, Development and Innovation; colaboration with European Space Agency (ESA) – 2017-2018. Coordinator institute: West University of Timisoara. Grant director: Prof. Vulcanov Dumitru. Grant funds: 693.898 RON. Financial source: Education Minsiter and ESA. Coordinator institute: Universitatea de Vest, Timisoara.
   The role in the research grant: Responsible from University of Craiova.

5. **Algorithms and structures for aircrafts and rockets identification, estimation and control -** 3 years postdoctoral scholarship (2010 - 2013) within the Grant "University research partnership - a step towards a postdoctoral school of the future". Grant code: POSDRU/89/ 1.5/S/61968. Contract financed from European Social Fund Operational Program Human Resources Development 2007 – 2013.
   The role in the research grant: Post-doctoral scholarship owner (grant director)

6. **Emerging technologies for counteracting the effects induced by turbulent flows of fluid media (CONTUR).** Program PN III – 2018-2020. Complex projects in consortia (PCCDI). Coordinator institute: Institute of Space Sciences (INFLPR). Grant director: Phd. Aurelian Radu. Grant funds: 4.061.008 RON. Financial source: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI).
   Role in the research grant: Responsible from University of Craiova in the component project

7. **Systems, equipment, technologies and advanced techniques for the increasing of the infrastructure and public/private interest protection degree – AVPROT.** Program *PN-II – Partnerships in priority domains* (2007 - 2010), No. 81 – 005/14.09.2007, domain „Space and Security", coordinator: SEECTRON. Grant director: Associate Professor Eng. Adrian Coman – Military Technical Academy, Bucharest. Grant funds: 1.319.171 RON. Financial source: M.E.C.T.S.
   The role in the research grant: Member of the research team

8. **Hydrostatic servo-actuator for aircrafts – SAHA.** Program *PN-II – Partnerships in priority domains* (2007-2010), Nr. 81 – 036/14.09.2007, domain „Space and Security", coordinator: INCAS - Bucharest. Grant director: PhD Ursu Ioan. Grant funds: 1.163.305 RON. Financial source: M.E.C.T.S.
   The role in the research grant: Member of the research team

9. **Multifunctional air system with high autonomy degree for the environment quality supervisor - SAMASCAM**. Program: *PN-II – Partnerships in priority domains* (2008 - 2011). Nr. 82-072/12.09.2008, domain „Space and Security", coordinator: University of Craiova. Grant director: Professor PhD. Eng. Romulus Lungu. Grant funds: 2.000.000 RON. Financial source: M.E.C.T.S.
   The role in the research grant: Member of the research team

10. **Air platform for the analysis of the aircraft flight qualities using similitude and scale reduction - PLATFUS**. Program: *PN-II – Partnerships in priority domains* (2008 - 2011). Nr. 82-091/11.09.2008, domain „Space and Security", coordinator: INCAS – Bucharest. Grant director: PhD. Eng. Floriean Mihai. Grant funds: 2.000.000 RON. Financial source: M.E.C.T.S.
    The role in the research grant: Member of the research team

11. **Researches regarding the increasing of the energetic efficiency in the civil buildings domain – CEEDCC**. Program *IMPACT*. Nr. 1367, coordinator: University of Craiova. Grant director: Associate Professor PhD. Eng. Calbureanu Popescu Madalina Xenia. Grant funds: 533.691 RON. Financial source: M.E.C.T.S.
    The role in the research grant: Member of the research team

12. **Researches regarding the amplification of the Coanda effect.** Program *PN II - IDEAS* (2008-2011). Nr. 712/19.01.2009, coordinator: University of Craiova. Grant director: Assoc. Professor PhD. Preotu Octavian. Grant funds: 299.952 RON. Financial source: M.E.C.T.S.
    The role in the research grant: Member of the research team

13. **High-precision strap-down inertial navigators, based on the connection and adaptive integration of the nano and micro inertial sensors in low cost networks, with a high degree of redundance.** Program *PN II – Human Resources* (2010 - 2013) – Young Teams. Grant director: Associate PhD. Eng. Grigorie Lucian Teodor. Grant funds: 727.725 RON. Financial source: M.E.C.T.S.
    The role in the research grant: Member of the research team

14. **High-precision micro and nano smart sensors for space inertial navigation applications.** Space Technology and Advanced Research - Program for Research, Development and Innovation; colaboration with European Space Agency (ESA) – 2012-2015. Coordinator institute: University of Craiova. Grant director: Associate PhD. Eng. Grigorie Lucian Teodor. Financial source: Education Minsiter and ESA.
    The role in the research grant: Key member (*Member of the research team*)

15. **High precision low-cost INS/GPS integrated navigation systems, based on intelligent data fusion algorithms.** Program PN II – Human Resources (2015-2017) – Young Teams. Coordinator institute: University of Craiova. Grant director: Associate Professor PhD. Eng. Grigorie Lucian Teodor. Grant funds: 550.000.000 RON. Financial source: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI).
    The role in the research grant: Member of the research team

16. **Demonstrator for direct Coanda effect amplification.** Program PN III – 2017-2018. Experimental-demonstrative project. Coordinator institute: University of Craiova. Grant director: Associate Professor PhD. Preotu Octavian. Grant funds: 600.000 RON. Financial source: Executive Agency for Higher Education, Research, Development and Innovation Funding.
    The role in the research grant: Member of the research team

17. **MILADEE - Micro Launcher based on Detonation Engine.** Space Technology and Advanced Research - Program for Research, Development and Innovation; colaboration with European Space Agency (ESA) – 2017-2018. Coordinator institute: COMOTI (Romanian Research & Development Institute for Gas Turbines). Grant director: Eng. Porumbel Ionut. Financial source: Education Minsiter and ESA.
    The role in the research grant: Member of the research team

18. **HYPOPS - Hybrid power source for pseudo-satellites.** Space Technology and Advanced Research - Program for Research, Development and Innovation; colaboration with European Space Agency (ESA) – 2017-2018. Coordinator institute: Univeristy of Craiova. Grant director: Lecturer PhD. Eng. Corcau Jenica. Financial source: Education Minsiter and ESA.
    The role in the research grant: Member of the research team

19. **Neural network based hardware platform for sub-orbital and orbital space vehicles.** Program PN III – 2017-2018. Experimental-demonstrative project. Coordinator institute: University of Craiova. Grant director: Professor PhD. Romulus Lungu. Grant funds: 475.000 RON. Financial source: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI).
    The role in the research grant: Member of the research team

20. **The study of the climate – pressure system efficiency.** No. 27C/11.04.2005. Beneficiary: S.C. AGEX GENERAL IMPEX, Bucharest, 05.04.2005-05.12.2005. Grant funds: 2700 RON. Private financial source.
    The role in the research grant: Member of the research team

21. **Virtual innovative bio-mechanical model for the testing the cinematic and dynamic behavior of the human bones in normal, accident or pathological situations.** Univeristy of Craiova grants' competition – interdisciplinary projects, 2013-2014. Grant funds: 24000 RON. Grant director: Associate PhD. Eng. Popa Dragoş – Facultaty of Mechanics, University of Craiova.. Financial source: Research Fund of the University of Craiova.
    The role in the research grant: Member of the research team

22. **Research regarding the improvement of the bio-reliability of the testing manikins in accidents and regarding the optimization of the elements and devices through the implementing of new and intelligent materials**. Univeristy of Craiova grants' competition – advanced research projects, 2013-2014. Grant funds: 12000 RON. Grant director: Lecturer PhD. Eng. Ciunel Ştefăniţa – Facultaty of Mechanics, University of Craiova. Financial source: Research Fund of the University of Craiova.
    The role in the research grant: Member of the research team

Assoc. Prof. PhD. Eng. Habil. Mihai LUNGU