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## EDUCATION

Diploma	Graduation year	Specialization	Place, Country
B.Sc.A	1984	Aircraft Design	Faculty of Aircraft Design, Bucharest, Romania
M.Sc.A	1989	Semi-Empirical Dynamic Stall Methods for Helicopters Design	Ecole Polytechnique, Montreal, Canada
PhD	1994	Fluid-Structures Interactions and Nonlinear Dynamics	McGill University, Montreal, Canada

## PROFESSIONAL EXPERIENCE

Position and Organization	Department	Period of time
Full Professor at ETS, Montreal, Canada	Automated Production Engineering	2004 -
Associate Professor at ETS, Montreal, Canada	Automated Production Engineering	1998 - 2004
Engineer, Aeroservoelasticity Task Leader at Bombardier Aerospace, Montreal, Canada	Loads and Dynamics	1995 - 1997
Postdoctoral Researcher at Auburn University, USA	Mechanical Engineering	1994 - 1995
PhD Student and Research Assistant at McGill University, Montreal, Canada	Mechanical Engineering	1989 - 1994
MASc Student and Research Assistant at École Polytechnique, Montreal, Canada	Mechanical Engineering	1987 - 1989
Engineer at ICA (Helicopters Puma and Alouette Factory), Brasov, Romania	Spare Parts Design	1984 - 1987

## SIGNIFICANT CONTRIBUTIONS

Since the beginning of her career, Dr. Botez has made research contributions in the area of aircraft design, modeling and simulation at both theoretical and practical levels. She has demonstrated her experience in two research areas: (i) new advanced flight dynamics and control methodologies and their validation, at the practical level, using flight tests; and (ii) active control technology and morphing applications for aircraft using aeroservoelasticity knowledge. These methodologies have been experimentally validated using both flight and wind tunnel tests.

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Both types of research have been performed on flying vehicles, such as rotorcraft and aircraft, with the global aim of advancing green aircraft technology. She is **Canada Research Chair Holder in Aircraft Modeling and Simulation New Technologies** since January 2011.

Dr Botez, as Project Leader, has finalized several challenging and original research projects in collaboration with renowned Canadian and international Aerospace companies, such as Bombardier Aerospace, Bell Helicopter Textron, CAE Inc., Thales Aerospace, NASA Dryden Flight Research Center (DFRC) and several others. These projects were considered to be premier realizations, and as such opened up new research areas in the Canadian aerospace industry. A high degree of technology transfer has been undertaken between Dr. Botez and these companies, as they are now using novel methodologies and codes based on her contributions. These achievements have been published in well-known scientific journals, presented at international conferences, and further pursued by the academic and industrial aerospace communities.

As mentioned above, the major contributions of Dr Botez are in two main areas, in which she has already acquired and demonstrated expertise. One area is in the conception of new methodologies for advanced flight dynamics modelling, simulation and control, and their validation using flight tests for rotorcraft and aircraft. These are detailed in sections 1.1, 1.2 and 1.3. The second area is in the conception, development and implementation of new aerodynamics, aeroelasticity and control analysis methodologies, and thus of the combined aeroservoelasticity disciplines for active control of aircraft technology and for morphing applications (see sections 1.3, 1.4 and 1.5).

Both these research areas are present in the aeroservoelastic identification and validation of the F/A-18 System Research Aircraft (SRA) in the Active Aeroelastic Wing (AAW) study based on the Flight Flutter Tests (FFT) presented in section 1.3. In the AAW program, roll control was achieved by manipulating wing flexibility, and thus it may be considered as part of the second research area in morphing aircraft. At the same time, roll control also involves aircraft model estimation based on Flight Flutter Tests, which may be considered as part of the first research area.

In the next sub-sections 1.1 to 1.6, we refer to methodologies and results in published journal papers that can be read in the publication section of Dr. Botez's LARCASE website to read them in pdf format: <http://www.larcase.etsmtl.ca/VE/publications.html>).

## **1.1 Flight and Ground Dynamics Rotorcraft Modelling based on Flight Test Data**

As part of the research described in the project entitled *Development of a New Parameter Estimation Technology for a Global Helicopter Model*, Bell Helicopter Textron transferred the data from more than one thousand flight tests, collected for a large range of flight conditions, to Dr Botez and to the IAR-NRC teams for the design and development of a Bell-427 flight dynamics simulator model. This simulator model was certified to Level D, which is the highest fidelity benchmark for simulator certification.

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Excellent work was achieved by Dr. Botez, which led to award-winning student theses (one Master's and one PhD), and award-winning oral conference presentation mainly on the new techniques of the advanced Bell-427 simulator modelling (see section 4.3).

The original complete ground dynamics numerical model of the Bell-427 was designed based on analytical formulations, and then successfully integrated into the global Bell-427 simulator model, after which it was verified and validated using flight tests.

Additional research was performed on the Proof-of-Match techniques for the validation of the Bell-427 simulator model using flight test data. Modern non-linear algorithms based on fuzzy logic techniques were also used for Bell-427 model identification. The prediction of the main tail rotor torque and engine parameter dynamics was realized using the subspace method.

The main outcomes of this research were the new methodologies and algorithms conceived for flight simulator model identification and validation, which led to significant reductions in the required number of flight tests and thus in the cost and time required for new helicopter development. This new approach made possible a nearly 60% reduction in the Bell-427 helicopter development cycle. The new methodologies and codes have been directly applied at Bell Helicopter Textron.

## **1.2 Aircraft Flight Dynamics and Stability Analysis based on Flight Tests and on Geometrical Data**

Aircraft stability analysis based on geometrical data, a research project realized in collaboration with CAE Inc., began in 2003. In this project, a new methodology and code were realized and validated for the stability analysis of the Hawker 800 XP business aircraft in the subsonic regime. This new code, called *FDerivatives*, contains over 200 text files, 95 Matlab functions and 10,000 lines.

This code is presently validated on the X-31 aircraft, for which experimental data are available in the NATO Working Group of the Applied Vehicle Technology AVT-161 – Assessment of Stability and Control Prediction Methods for NATO Air & Sea Vehicles. This code will be further improved and validated using the in-house (unique) Research Aircraft Flight Simulator for the Cessna Citation X, which is one of the fastest business aircraft.

This new code, based on aircraft geometrical knowledge, has a very fast execution time, and is thus considered to be useful in preliminary aircraft design and in the conception of new aircraft, the stage at which aeronautical companies need to minimize their decision time on aircraft geometry. Another advantage would be a reduction in the number of flight tests required for the design of the final aircraft, along with the associated costs.

The code will be generalized for different types of aircraft, using existing non-confidential geometrical data for its further use in aerospace companies, universities and research institutes.

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### **1.3 Modern Techniques for Aircraft Model Identification and Validation based on Flight Flutter Tests**

Flutter analysis and its validation through Flight Flutter Tests (FFT) for the F/A-18 SRA is an important aspect of aircraft research, in which a high level of interest has been shown, mainly by NASA and the US Air Force, and it will very likely be of interest to other aircraft manufacturers as well. Dr. Botez worked on the identification and validation of the F/A-18 modified aircraft model from FFT data collected in the Active Aeroelastic Wing (AAW) technology program at NASA Dryden Flight Research Center (DFRC).

In this project, signals from FFTs corresponding to the excited sources were measured at NASA DFRC. The excitation inputs were given by the differential and collective ailerons, differential and collective stabilizers and by the rudders. Two types of signals were used: control deflection time histories, and structural deflections on the wings and trailing-edge flaps. The FFT data were collected for sixteen flight conditions expressed in terms of Mach numbers between 0.85 and 1.30, and altitudes between 5,000 and 25,000 ft.

The F/A-18 aircraft flutter model relating the control to the structural deflections was identified and validated from its input and output characteristics, using modern Fuzzy Logic, Neural Network and subspace techniques. Results revealed very good fits between the estimated and measured signals, and correlation coefficients higher than 90%.

This type of research will be helpful in the conception of new flight flutter suppression techniques based on FFTs, with the aim of extending the flutter envelope and, in turn, aircraft performance. The importance of this research for aircraft certification, as well as for passenger safety, is well known, since flutter is a dangerous phenomenon for an aircraft structure and must be avoided during flight.

### **1.4 Aeroservoelasticity Studies for an Airplane's Active Control System's Interactions with its Flexible Structure**

Dr Botez has been working in the aeroservoelasticity multidisciplinary area since 1995, when she was hired by Bombardier Aerospace to work as the project task leader for the aeroservoelasticity analysis of the Active Control Technology (ACT) project. Since 1998, she has continued this research at ÉTS in collaboration with Bombardier Aerospace and NASA DFRC. This type of analysis is one of the most important and active areas in modern aircraft design, and remain an area that requires permanent ongoing research.

This innovative research on aeroservoelasticity was realized and applied in the context of three well-known research projects at NASA DFRC, using real flight test data for the following aircraft systems: the F/A-18 Systems Research Aircraft (SRA), the Aerostructures Test Wing (ATW) and the F/A-18 Active Aeroelastic Wing (AAW). Aeroservoelastic interactions were studied in collaboration with Bombardier Aerospace on the CL-604 aircraft.

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The key technologies investigated in the F/A-18 SRA project at NASA DFRC were: advanced power-by-wire concepts, electrically powered actuators and mechanical systems, fly-by-light (fibre optic cable) systems, advanced computer architectures and flight test techniques. One flight experiment, called the Aerostructures Test Wing (ATW) study, conducted at NASA DFRC in Edwards, California, successfully demonstrated a new software data analysis tool, the flutterometer, which was designed to increase the efficiency of FFTs. The aerodynamic load predictions on the test wing were validated, and analytical strain gauge calibration techniques were installed. In the AAW project, roll control was provided by active controls of wing flexibility on a modified F/A-18 at transonic and supersonic speeds – a modern outgrowth of the “wing warping” technique used in the Wright brothers’ first aircraft.

Dr. Botez’s major contributions to research in the aeroservoelasticity area have been focused mainly on the **conception and validation of novel methodologies and algorithms for the conversion of aerodynamic forces from the frequency domain to the Laplace domain (section 1.4.1)**, and on the **interactions between the elastic modes of an aircraft and its rigid and control modes (section 1.4.2)**.

#### **1.4.1 Conception and Validation of Novel Methodologies and Algorithms for the conversion of Aerodynamic Forces from the Frequency Domain to the Laplace Domain**

Six new methods were conceived for converting aerodynamic forces from the frequency domain to the time domain, and these have produced better results than the classical methods. The new Corrected LS (CLS) and Corrected MS (CMS) methods were based on the classical Least Squares (LS) and Minimum State (MS) algorithms respectively. The Mixed method was based on a combination of those two classical methods. The fourth method was based on Padé approximations, while the fifth used Chebyshev polynomials and their orthogonal properties. The sixth new method used fuzzy clustering techniques. These new methods produced better and faster results than the classical methods, in terms of execution speeds and precision, flutter speeds and frequencies, and in all three of the NASA DFRC projects (SRA, ATW and AAW) mentioned above.

For the CL-604 Bombardier aircraft, these new methods for converting aerodynamic forces from the frequency domain to the Laplace domain were conceived and validated in collaboration with Bombardier Aerospace. They were directly applied on the aeroservoelastic CL-604 model and on its roll control using ailerons. These new aeroservoelasticity methodologies have also been applied to the CF-18 aircraft at Bombardier Aerospace.

Bombardier Aerospace has successfully used the methodologies and results obtained in this project to validate the new time-based methodologies for aeroservoelastic analysis conceived by Dr Botez, using wind tunnel tests. The wind tunnel model consisted of a three-degrees-of-freedom wing with a computer-operated aileron. The wind tunnel tests included frequency sweep, pulse, step and short sinusoidal excitations. The wind tunnel results were expressed in

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terms of flutter speeds, frequencies and time-based responses to aileron excitations, and they were successfully validated with numerical results.

#### **1.4.2 Interactions between the Elastic Modes of an Aircraft and its Rigid and Control Modes**

The rigid and control mode aerodynamic forces and their corresponding stability and control derivatives for an F/A-18 aircraft were calculated and validated by two original methods (numerical and analytical) for a high number (90) of flight test conditions. Flying qualities for this aircraft were also calculated, and then the aeroservoelastic interactions between the rigid, control and elastic modes were analyzed.

#### **1.5 Morphing Wing Laminar Flow Controller Design**

Research on the new design for the laminar flow improvement of a morphing wing controller, resulting in reduced drag and fuel consumption, is extremely useful for green aircraft design, and is thus in line with current European and North American policies. Dr. Botez investigated this area by using a wing equipped with a flexible upper skin. Smart Material Actuators (SMAs) were installed on the upper wing surface, so that it could change its shape for various flight conditions. A novel controller methodology was conceived to change the wing airfoil shape by relating pressure sensors to SMAs, in order to improve the aerodynamic performance. This new type of controller was conceived and simulated using three modern techniques (Modified Proportional Integral Derivative PID, Fuzzy Logic and Real-Time Optimization), so that it reduced the wing drag and thus fuel consumption. This new controller methodology was validated using wind tunnel tests at IAR-NRC.

In addition to the new open and closed loop controller methodologies, Dr. Botez has made the following three significant contributions to research in this field: 1) new modeling of SMAs based on Adaptive Neuro-Fuzzy Inference Systems, and their experimental validation during bench testing; 2) new aeroelastic studies to determine the flutter conditions that need to be avoided during wind tunnel tests on the morphing wing equipped with SMAs and pressure sensors; and 3) new methods for the transition from laminar to turbulent flow. Dr. Botez was invited to present the methodologies and the results obtained in this project at the Bombardier Seminar on January 20, 2010, to engineers working in six different departments: Flight Sciences, Stability and Control, Advanced Design, Loads, Dynamics, and Advanced Aerodynamics.

The collaborators from Bombardier and Thales Aerospace may use the new findings of this research project in their various departments, which is extremely encouraging for Dr Botez. The success of this project can be seen in its continuation, in collaboration with these companies and under the leadership of Dr Botez, on an international scale with Italian partners. The third CRIAQ award has been won by the team led by Dr Botez as academic leader and by Mr Philippe Molaret as industrial leader in 2012 at the CRIAQ competition of finalized projects.

#### **1.6 Flight Management System trajectories optimization**

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Dr Botez worked and continues working in collaboration with CMC Electronics-Esterline on the conception of new methodologies for aircraft trajectory optimizations for fuel reduction applied to the Flight Management Systems (FMS) in the Green Aviation Research & Development Network GARDN Business led BL-Network Center of Excellence.

Many algorithms were produced and could be applied and implemented on the FMS. This project is renewed presently in the GARDN II round of projects until 2018.

## 2. RESEARCH CONTRIBUTIONS

Dr. Botez has published a large number of papers in very well-known aeronautical journals. The team led by Dr Botez published 100 papers in scientific journals, 5 invited chapter books, and 241 papers in conference proceedings. The names of the students, authors and co-authors of these papers are underlined in the sub-sections below.

### 2.1 Papers published in refereed scientific journals

1. Tchatchueng Kammege, M. J., Botez, R. M., Grigorie, T. L., Mamou, M., Mebarki, Y., 2016, "A Fuel Saving Way in Aerospace Engineering based on Morphing Wing Technology – A New Multidisciplinary Experimental Model," *International Journal of Contemporary Energy*, Vol. 2(2), pp. 11-21, DOI: 10.14621/ce.20160202.
2. Sugar Gabor, O., Koreanschi, A., Botez, R. M., 2016, "A New Non-Linear Vortex Lattice Method: Applications to Wing Aerodynamic Optimizations," *Chinese Aeronautical Journal*, Paper CJA-D-15-00461R1, accepted in March.
3. Koreanschi, A., Sugar Gabor, O., Acotto, J., Brianchon, G., Portier, G., Botez, R. M., Mamou, M., Mébarki, Y., 2016, "Optimization of a Morphing Wing Tip Aircraft Demonstrator for Drag Reduction at Low Speeds, Part I - Numerical Analysis using 3 Algorithms: Genetic, Artificial Bee Colony and Gradient Descent," *Chinese Journal of Aeronautics*, accepted, 20<sup>th</sup> of June.
4. Koreanschi, A., Sugar Gabor, O., Acotto, J., Brianchon, G., Portier, G., Botez, R. M., Mamou, M., Mébarki, Y., 2016, "Optimization Morphing Wing Tip Aircraft Demonstrator for Drag Reduction at Low Speeds, Part II - Experimental Validation using Infra-Red Transition Measurements during Wind Tunnel Tests," *Chinese Journal of Aeronautics*, accepted, 20<sup>th</sup> of June.
5. Sugar Gabor, O., Koreanschi, A., Botez, R. M., 2016, "Analysis of UAS-S4 Éhecatl Aerodynamic Performance Improvement using Several Configurations of a Morphing Wing Technology," *The Aeronautical Journal*, Vol. 120(1231), pp. 1337-1364.
6. Mosbah, A. B., Botez, R. M., Dao, T. M., 2016, "New Methodology combining Neural Network and Extended Great Deluge Algorithms for the ATR-42 Wing Aerodynamics Analysis," *The Aeronautical Journal*, Vol. 120(1229), pp. 1049-1080.
7. Murrieta-Mendoza, A., Botez, R. M., Ford, S., 2016, "New method to compute the missed approach fuel consumption and its emissions," *The Aeronautical Journal*, Vol. 120(1228), pp. 910 - 929.

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8. Koreanschi, A., Sugar-Gabor, O., Botez, R. M., 2016, "Numerical and Experimental Validation of a Morphed Wing Geometry Using Price-Paidoussis Wind Tunnel Testing," *The Aeronautical Journal*, Vol. 120(1227), pp. 757- 795.
9. Boughari, Y., Botez, R. M., Ghazi, G., Theel, F., 2016, "Flight Control Clearance of the Cessna Citation X using Evolutionary Algorithms," *Proceedings of the Institute of Mechanical Engineers IMechE, Part G: Journal of Aerospace*, Published online before print April 11, 2016, doi: 10.1177/0954410016640821.
10. Dancila, B. D., Botez, R. M., 2016, "Geographic Area Selection and Construction of a corresponding Routing Grid used for in-Flight Management System Flight Trajectory Optimization," Paper ID JAERO-15-0261.R1, *Proceedings of the Institute of Mechanical Engineers IMechE, Part G: Journal of Aerospace*, Published online before print, April 13, 2016, doi:10.1177/0954410016643104.
11. Sugar Gabor, O., Koreanschi, A., Botez, R. M., Mamou, M., Mébarki, Y., 2016, "Numerical Simulation and Wind Tunnel Tests Investigation and Validation of a Morphing Wing-Tip Demonstrator Aerodynamic Performance," *Aerospace Science and Technology*, Vol. 53, pp. 136–153.
12. Koreanschi, A., Sugar-Gabor, O., Botez, R. M., 2016, "Drag Optimization of a Wing Equipped with a Morphing Upper Surface," *The Aeronautical Journal*, Vol. 120(1225), pp. 473-493, doi:10.1017/aer.2016.6.
13. Murrieta-Mendoza, A., Gagné, J., Botez, R. M., 2016, "New Search Space Reduction Algorithm for Vertical Reference Trajectory Optimization," *INCAS Bulletin*, Vol. 8(2), pp. 77-95.
14. Mosbah, A. B., Botez, R. M., Dao, M. T., Guezguez, M., Zaag, M., 2016, "A Neural Network Controller New Methodology for the ATR-42 Morphing Wing Actuation," *INCAS Bulletin*, Vol. 8(2), pp. 59-75.
15. Koreanschi, A., Henia, M. B., Guillemette, O., Michaud, F., Tondji, Y., Sugar Gabor, O., Botez, R. M., Flores Salinas, M., 2016, "Flutter Analysis of a Morphing Wing Technology Demonstrator: Numerical Simulation and Wind Tunnel Testing," *INCAS Bulletin*, March Issue, Vol. 8(1), pp. 99-124.
16. Sugar Gabor, O., Simon, A., Koreanschi, A., Botez, R. M., 2016, "Aerodynamic Performance Improvement of the UAS-S4 Éhecatl Morphing Airfoil using Novel Optimization Techniques," *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, Vol. 230(7), pp. 1164-1180, DOI 10.1177/0954410015605548.
17. Sugar Gabor, O., Simon, A., Koreanschi, A., Botez, R. M., 2016, "Improving the UAS-S4 Éhecatl Airfoil High Angle of Attack Performance Characteristics using a Morphing Wing Approach," *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, Vol. 23(2), pp. 118-131, doi:10.1177/0954410015587725.
18. Mosbah, A. B., Botez, R. M., Dao, T. M., 2016, "Hybrid Original Approach for the Prediction of the Aerodynamic Coefficients of an ATR-42 Scaled Wing Model," *Chinese Aeronautical Journal*, Vol. 29(1), pp. 41-52, DOI 10.1016/j.cja.2015.12.022.
19. Ghazi, G., Botez, R., Achiqui, J. M., 2015, "Cessna Citation X Engine Model Identification from Flight Tests," *SAE International Journal of Aerospace*, Vol. 8 (2015-01-2390).



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20. Tchatchueng Kammegne, M. J., Grigorie, L. T., Botez, R. M., 2015, "Design, Numerical Simulation and Experimental Testing of a Controlled Electrical Actuation System in a Real Aircraft Morphing Wing Model," *The Aeronautical Journal*, Vol. 119(1219).
21. Felix Patron, R. S., Botez, R. M., 2015, "Flight Trajectory Optimization through Genetic Algorithms for Lateral and Vertical Integrated Navigation," *AIAA Journal of Aerospace Information Systems*, Vol. 12, No. 8(2015), pp. 533-544, doi: 10.2514/1.1010348.
22. Murrieta Mendoza, A., Botez, R. M., 2015, "Methodology for Vertical-Navigation Flight Trajectory Cost Calculation Using a Performance Database," *AIAA Journal of Aerospace Information Systems*, Vol. 12, No. 8 (2015), pp. 519-532, doi: 10.2514/1.1010347.
23. Anton, N., Botez, R. M., 2015, "Weight Functions Method for Stability Analysis applied as Design Tool for Hawker 800XP Aircraft," *The Aeronautical Journal*, Vol. 119(1218).
24. Edu, I. R., Adochiei, F. C., Grigorie, T. L., Botez, R. M., 2015, "Tuning of a Wavelet Filter for Miniature Accelerometers Denoising based Joint Symbolic Dynamics (JSD) Method," *INCAS Bulletin*, Vol. 7(2), pp. 71-80, ISSN 2066-8201.
25. Grigorie, T. L., Botez, R. M., 2015, "Positioning Monitoring Improvement in a Horizontal Plane INS by Using Fuzzy Logic Data Fusion for Denoising of Inertial Sensors in Redundant Clusters," *International Journal of Fuzzy Systems and Advanced Applications*, Vol. 2, pp. 33-40, ISSN 2313-0512.
26. Tchatchueng Kammegne, M. J., Grigorie, L. T., Botez, R. M., Koreanschi, A., 2015, "Design and Wind Tunnel Experimental Validation of a Controlled New Rotary Actuation System for a Morphing Wing Application," *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, Vol. 230(1), pp. 132-145, doi: 10.1177/0954410015588573.
27. Grigorie, L.T., Botez, R.M., Popov, A.-V., 2015, "How the Airfoil Shape of a Morphing Wing is Actuated and Controlled in a Smart Way," *The Journal of Aircraft Engineering*, ASCE Edition, Vol. 28(1).
28. Ren, Q., Baron, L., Balazinski, M., Botez, R., Bigras, P., 2015, "Tool wear assessment based on type-2 fuzzy uncertainty estimation on acoustic emission," *Applied Soft Computing*, Vol. 31, pp. 14-24.
29. Felix Patron, R. S., Berrou, Y., Botez, R. M., 2015, New Methods of Optimization of the Flight Profiles for Performance Database-Modeled Aircraft, *Proceedings of the Institution of Mechanical Engineers, Part G: Journal of Aerospace Engineering*, Vol. 229, pp. 1853-1867, first published on December 2, 2014 doi:10.1177/0954410014561772.
30. Ren, Q., Balazinski, M., Baron, L., Jemielniak, K., Botez, R., Achiche, S., 2014, "Type-2 fuzzy tool condition monitoring system based on acoustic emission in micromilling," *Information Sciences*, Vol. 255, pp. 121-134.
31. Dancila, R., Botez, R. M., Ford, S., 2014, Fuel Burn and Emissions Evaluation for a Missed Approach Procedure performed by a B737-400, *The Aeronautical Journal*, Vol. 118(1209).

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1st of December 2016

32. Felix Patron, R. S., Kessaci, A., Botez, R. M., 2014, Horizontal Flight Trajectories Optimization for Commercial Aircraft through a Flight Management System, *The Aeronautical Journal*, Vol. 118(1210).
33. Anton, N., Botez, R. M., Popescu, D., 2013, "Application of the Weight Function Method on a High Incidence Research Aircraft Model," *The Aeronautical Journal*, Vol. 117(1195), pp. 897-912.
34. Rodriguez Fajardo, L., Botez, R. M., 2013, "Generic New Modelling Technique for Turbofan Engines Thrust," *The AIAA Journal of Propulsion and Power*, Vol. 29(6), pp. 1492-1495.
35. Mosbah, A. B., Flores Salinas, M., Botez, R. M., Dao, T., 2013, "New Methodology for Wind Tunnel Calibration Using Neural Networks - EGD Approach," *SAE International Journal of Aerospace*, Vol. 6(2), pp. 761-766.
36. Hamel, C., Sassi, A., Botez, R. M., Dartiques, C., 2013, "Cessna Citation X Aircraft Global Model Identification from Flight Tests," *SAE International Journal of Aerospace*, Vol. 6(1), pp. 106-114.
37. Sugar Gabor, O., Koreanschi, A., Botez, R. M., 2013, "Optimization of an Unmanned Aerial System' Wing Using a Flexible Skin Morphing Wing," *SAE International Journal of Aerospace*, Vol. 6(1), pp. 115-121.
38. Patron Felix, S. R., Botez, R. M., Labour, D., 2013, "New altitude optimization algorithm for the Flight Management System CMA-9000 improvement on the A310 and L-1011 aircraft," *The Aeronautical Journal*, Vol. 117(1194), pp. 787-805.
39. Dancila, B. D., Botez, R.M., Labour, D., 2013, "Fuel burn prediction algorithm for cruise, constant speed and level flight segments," *The Aeronautical Journal*, Vol. 117, No 1191, pp. 491-504.
40. Fays, J., Botez, R. M., 2013, "Algorithm for the Aircraft Trajectories considering No Fly Zones for a Flight Management System," *National Institute for Aerospace Research "Elie Carafoli" INCAS Bulletin*, Vol. 5, No 3, pp. 77-88.
41. Grigorie, L. T., Botez, R. M., 2013, "A new method to reduce the noise of the miniaturized inertial sensors disposed in redundant linear configurations," *The Aeronautical Journal*, Vol. 117(1187), pp. 111-132.
42. Botez, R.M., Hiliuta, A., Stathopoulos, N., Thérien, S., Rathé, A., Dickinson, M., 2012, "Aeroservoelastic flutter and frequency response interactions on the CL-604 aircraft," *INCAS Bulletin*, Vol. 4(4), pp. 15-122.
43. Grigorie, L. T., Botez, R. M., Popov, A. V., Mamou, M., Mébarki, Y., 2012, "A Hybrid Fuzzy Logic Proportional-Integral-Derivative and Conventional On-Off Controller for Morphing Wing Actuation using Shape Memory Alloy, Part 1: Morphing System Mechanisms and Controller Architecture Design," *The Aeronautical Journal*, Vol. 116 (1179), pp. 433-449.
44. Grigorie, L. T., Botez, R. M., Popov, A. V., Mamou, M., Mébarki, Y., 2012, "A Hybrid Fuzzy Logic Proportional-Integral-Derivative and Conventional On-Off Controller for Morphing Wing Actuation using Shape Memory Alloy, Part 2: Controller Implementation and Validation," *The Aeronautical Journal*, Vol. 116 (1179), pp. 451-465.

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1st of December 2016

45. Grigorie, L. T., Botez, R. M., 2013, "A New Method to reduce the Noise of the Miniaturized Inertial Sensors disposed in Redundant Linear Configurations," *The Aeronautical Journal*, Vol. 117(1188).
46. Courchesne, S., Popov, A.V., Botez, R. M., 2012, "New Aeroelastic Studies for a Morphing Wing," *INCAS Bulletin*, Vol. 4(2), pp. 19-28.
47. Grigorie, L. T., Botez, R. M., Lungu, M., Edu, R. I., Obreja, R., 2011, "MEMS 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*, pp. 1-18.
48. Grigorie, L.T., Popov, A.-V., Botez, R. M., Mamou, M., Mebarki, Y., 2011, "On-Off and Proportional-Integral Controller for a Morphing Wing. Part 1: actuation mechanism and control design," *Proceedings of the Institution of Mechanical Engineers, Vol. 226(2), Part G, Journal of Aerospace Engineering*, pp. 131-145.
49. Grigorie, L.T., Popov, A.-V., Botez, R. M., Mamou, M., Mebarki, Y., 2011, "On-Off and Proportional-Integral Controller for a Morphing Wing. Part 2: control validation - numerical simulations and experimental tests," *Proceedings of the Institution of Mechanical Engineers, Vol. 226(2), Part G, Journal of Aerospace Engineering*, pp. 146-162.
50. Anton, N., Botez, R. M., 2011, "Weight Functions Method Application on a Delta-Wing X-31 configurations," *INCAS Bulletin*, Vol. 3(4), pp. 3-16, ISSN 2066-8201.
51. De Jesus Mota, S., Botez, R.M., 2011, "New helicopter model identification method based on a neural network optimization algorithm and on flight test data," *The Aeronautical Journal*, Vol. 115(1167), pp. 295-314.
52. Anton, N., Botez, R. M., Popescu, D., 2011, "Stability derivatives for X-31 delta-wing aircraft validated using wind tunnel test data," *Proceedings of the Institution of Mechanical Engineers, Vol. 225, Part G, Journal of Aerospace Engineering*, pp. 403-416.
53. Boëly, N., Botez, R.M., Kouba, G., 2011, "Identification of a nonlinear F/A-18 model by use of fuzzy logic and neural network methods," *Proceedings of the Institution of Mechanical Engineers, Vol. 225, Part G, Journal of Aerospace Engineering*, pp. 559-574.
54. Boëly, N., Botez, R. M., 2010, "New Approach for the Identification and Validation of a Nonlinear F/A-18 Model by use of Neural Networks," *IEEE Transactions on Neural Networks*, Vol. 21(11), pp. 1759-1765.
55. Popov, A.V., Botez, R. M., Grigorie, T.L., Mamou, M., Mebarki, Y., 2010, "Modeling and Testing of a Morphing Wing in an Open Loop Architecture," *AIAA Journal of Aircraft*, Vol. 47(3), pp. 917-923.
56. Anton, N., Botez, R. M., Popescu, D., 2010, "New Methods and Code for Stability Derivatives Calculations from Hawker 800 XP Aircraft Geometrical Data Knowledge," *The Aeronautical Journal*, Vol. 114(1156).
57. Popov, A. V., Botez, R. M., Grigorie, T. L., Mamou, M., Mebarki, Y., 2010, "Closed Loop Control of a Morphing Wing in Wind Tunnel," *AIAA Journal of Aircraft*, Vol. 47(4), pp. 1309-1317.

58. Popov, A. V., Botez, R. M., Grigorie, T. L., Mamou, M., Mebarki, Y., 2010, "Real Time Morphing Wing Optimization Validation in Wind Tunnel Tests," *AIAA Journal of Aircraft*, Vol. 47(4), pp. 1346-1354.
59. Silisteanu, P., Botez, R. M., 2010, "Transition Flow Occurrence Estimation New Method," *AIAA Journal of Aircraft*, Vol. 47(2), pp. 703-707.
60. Grigorie, L. T., Botez, R. M., 2010, "Modelling and Numerical Simulation of an Algorithm for the Inertial Sensors Errors Reduction and for the Increase of the Strap-Down Navigator Redundancy Degree in a Low Cost Architecture," *Transactions of the Canadian Society for Mechanical Engineering (CSME)*, Vol. 34(1).
61. Kouba, G., Botez, R. M., Boëly, N., 2010, "Fuzzy Logic Method used in the F/A-18 Aircraft Model Identification," *AIAA Journal of Aircraft*, Vol. 47(1), pp. 1-17.
62. Grigorie, L. T., Botez, R. M., 2010, "New Adaptive Controller Method for SMA Hysteresis Modeling of a Morphing Wing," *The Aeronautical Journal*, Vol. 114(1151), pp. 1-13.
63. Grigorie, L. T., Botez, R. M., Popov, A.-V., 2009, "Adaptive Neuro-Fuzzy Controllers for an Open Loop Morphing Wing System," *Proceedings of the Institution of Mechanical Engineers - Part G: Journal of Aerospace Engineering*, Vol. 223(J), pp. 965-975.
64. Grigorie, L. T., Botez, R. M., 2009, "Adaptive Neuro-Fuzzy Interference System Based Controllers for Smart Material Actuator Modeling," *Proceedings of the Institution of Mechanical Engineers - Part G: Journal of Aerospace Engineering*, Vol. 223(G6), pp. 655-668.
65. Popov, A.-V., Botez, R. M., Mamou, M., Grigorie, L. T., 2009, "Variations in Optical Sensor Pressure Measurements due to Temperature in Wind Tunnel Testing," *AIAA Journal of Aircraft*, Vol. 46(4), pp. 1314-1318.
66. De Jesus Mota, S., Beaulieu-Nadeau, M., Botez, R. M., 2008, "Identification of a MIMO State Space Model of an F/A-18 Aircraft using a Subspace Method," *The Aeronautical Journal*, Vol. 113(1141), pp. 183-190.
67. Grigorie, L. T., Botez, R. M., 2008, "The Bias Temperature Dependence Estimation and Compensation for an Accelerometer by use of the Neuro-Fuzzy Techniques," *Transactions of the Canadian Society for Mechanical Engineering (CSME)*, Vol. 32(3), pp. 383-400.
68. Botez, R. M., Grigorie, L., Hiliuta, A., Ciocan, L., 2008, "Rigid and Control Modes Aerodynamic Unsteady Forces Aero-Servo-Elastic Modeling," *AIAA Journal of Guidance, Control, and Dynamics*, Vol. 31(5), pp. 1372-1385.
69. Popov, A.-V., Labib, M., Fays, J., Botez, R. M., 2008, "Closed Loop Control Simulations on a Morphing Wing," *AIAA Journal of Aircraft*, Vol. 45(5), pp. 1794-1803.
70. Nadeau Beaulieu, M., Botez, R. M., 2008, "Simulation and Prediction of the Helicopter Main Rotor, Tail Rotor and Engine Parameters by using the Subspace System Identification Method," *Proceedings of the Institution of Mechanical Engineers - Part G: Journal of Aerospace Engineering*, Vol. 222(G6), pp. 817-834.
71. Popov, A. V., Botez, R. M., Labib, M., 2008, "Transition Point Detection from the Surface Pressure Distribution for Controller Design," *AIAA Journal of Aircraft*, Vol. 45(1), pp. 23-28.

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72. Biskri, D. E., Botez, R. M., 2008, "Method for Aerodynamic Unsteady Forces Time Calculations on an F/A-18 Aircraft," *The Aeronautical Journal*, Vol. 112 (1127), pp. 27-32.
73. Nadeau Beaulieu M., Botez, R. M., Hiliuta, A., 2007, "Ground Dynamics Model Validation by use of Landing Flight Test," *AIAA Journal of Aircraft*, Vol. 44(6), pp. 2063-2068.
74. Biskri, D. E., Botez, R. M., Stathopoulos, N., Thérien, S., Dickinson, M., Rathé, A., 2008, "Aeroservoelasticity Analysis Method based on an Error Analytical Form applied on a Business Aircraft," *Journal of Vibration and Control*, Vol. 14(8), pp. 1217-1230.
75. Nadeau Beaulieu, M., De Jesus Mota, S., Botez, R. M., 2007, "Identification of Structural Surfaces Positions on an F/A-18 using the Subspace Identification Method from Flight Flutter Tests," *Proceedings of the Institution of Mechanical Engineers - Part G: Journal of Aerospace Engineering*, Special Issue, Vol. 221(5), pp. 719-731.
76. Hiliuta, A., Botez, R. M., 2007, "Flight Dynamics Helicopter Model Validation based on Flight Test Data," *Proceedings of the Institution of Mechanical Engineers - Part G: Journal of Aerospace Engineering*, Vol. 221(5), pp. 757-765.
77. Botez, R. M., Dinu, A., Cotoi, I., 2007, "Method based on Chebyshev Polynomials for Aeroservoelastic Interactions on an F/A-18 Aircraft," *AIAA Journal of Aircraft*, Vol. 44(1), pp. 330-333.
78. Botez, R. M., Biskri, D. E., 2007, "Unsteady Aerodynamic Forces Mixed Method for Aeroservoelasticity Studies on an F/A-18 Aircraft," *AIAA Journal of Aircraft*, Vol. 44(4), pp. 1378-1383.
79. Botez, R. M., Dinu, A., Cotoi, I., Stathopoulos, N., Terrien, S., Rathé, A., Dickinson, M., 2007, "Improved Method for creating Time-Domain Unsteady Aerodynamic Models," *Proceedings of the Institution of Mechanical Engineers - Part G: Journal of Aerospace Engineering*, Vol. 20(3), pp. 204-208.
80. Botez, R. M., Rotaru, M., 2007, "Flying Qualities for an F/A-18 aircraft," *The Aeronautical Journal*, Vol. 111 (1118), pp. 231-232.
81. Grigorie, T. L., Hiliuta, A., Botez, R. M., Aron, I., 2006, "Numerical and Experimental Study of an Algorithm of Altitude for a Strap Down Inertial System," *Transactions of the Canadian Society for Mechanical Engineering (CSME)*, Vol. 30(3), pp. 429-442.
82. Biskri, D. E., Botez, R. M., 2006, "Aerodynamic Forces based on an Error Analytical Formulation for Aeroservoelasticity Studies on an F/A-18 Aircraft," *Proceedings of the Institution of Mechanical Engineers - Part G: Journal of Aerospace Engineering*, Vol. 220(G), pp. 421-428.
83. Biskri, D. E., Botez, R. M., Stathopoulos, N., Thérien, S., Rathé, A., Dickinson, M., 2006, "New Mixed Method for Unsteady Aerodynamic Force Approximations for Aeroservoelasticity Studies," *AIAA Journal of Aircraft*, Vol. 43(5), pp. 1538-1542.
84. Dinu, A., Botez, R. M., Cotoi, I., 2006, "Chebyshev Polynomials for Unsteady Aerodynamic Calculations in Aeroservoelasticity," *AIAA Journal of Aircraft*, Vol. 43(1), pp. 165-171.
85. Dinu, A., Botez, R. M., Cotoi, I., 2005, "Aerodynamic Forces Approximations by Chebyshev Method for Aeroservoelasticity Studies," *Canadian Aeronautical Society Journal (CASJ)*, Vol. 51(4), pp. 167-175.

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86. Dumitrache, A., Botez, R. M., 2005, "Active control laws for aeroelasticity," *PAMM*, Vol. 5(1), pp. 651-652.
87. Hiliuta, A., Botez, R. M., Brenner, M., 2005, "Approximation of Unsteady Aerodynamic Forces  $Q(k, M)$  by use of Fuzzy Techniques," *AIAA Journal*, Vol. 43(10), pp. 2093-2099.
88. Ibrir, S., Botez, R. M., 2005, "Robust Stabilization of Uncertain Aircraft Systems with Linear Model," *Journal of Vibration and Control*, Vol. 11, pp. 187-200.
89. Botez, R. M., Biskri, D. E., Doin, A., Cotoi, I., Parvu, P., 2004, "Closed Loop Aeroservoelastic Analysis Method," *AIAA Journal of Aircraft*, Vol. 41(4), pp. 962-964.
90. Botez, R., M., Doin, A., Biskri, D., Cotoi, I., Hamza, D., Parvu, P., 2003, "Method for flutter aeroservoelastic open loop analysis," *Canadian Aeronautical Society Journal CASJ*, Vol. 49(4), pp. 179-190.
91. Cotoi, I., Botez, R. M., 2002, "Method of unsteady aerodynamic forces approximation for aeroservoelastic interactions," *AIAA Journal of Guidance, Control, and Dynamics Scope*, Vol. 25(5), pp. 985-987.
92. Aouf, N., Boulet, B., Botez, R., 2002, "Model and Controller reduction for Flexible Aircraft preserving Robust Performance," *IEEE Transactions on Control Systems Technology*, Vol. 10(2), pp. 229-237.
93. Botez, R. M., Chelaru, V., Pâravu, P., Gheorghe, C., 2001, "Calculus Model for a Rolling Guided Missile," *Journal of Vibration and Control*, Vol. 7, pp. 863-889.
94. Botez, R. M., Boustani, I., Vayani, N., Bigras, P., Wong, T., 2001, "Optimal control laws for gust alleviation," *Canadian Aeronautical Society Journal*, Vol. 47 (1), pp. 1-6.
95. Aouf, N., Boulet, B., Botez, R., 2000, "Robust gust load alleviation for a flexible aircraft," *Canadian Aeronautical Society Journal*, Vol. 46 (3), pp. 131-139 (article on the cover).
96. Wong, T., Houle, J. L., Botez, R.M., 2000, "Complexity of a class of task scheduling problems," *Libertas Mathematica*, Vol. XX, pp. 131-139.
97. Botez, R.M., Bigras, P., 1999, "Methods for the aerodynamic approximation in the Laplace domain for the aeroservoelastic studies," *Libertas Mathematica*, Vol. XIX, pp. 171-181.
98. Botez, R.M., Païdoussis, M.P., 1996, "Dynamics of an articulated cylinder in annular flow via non-linear and partially linearized versions of an analytical model," *Journal of Sound and Vibration*, Vol. 192 (3), pp. 645-668.
99. Païdoussis, M.P., Botez, R.M., 1995, "Different routes to chaos for a three degrees of freedom articulated cylinder system impacting with the outer pipe and subjected to an external axial flow," *Journal of Nonlinear Dynamics*, Vol. 7, pp. 429-450.
100. Païdoussis, M.P., Botez, R.M., 1993, "Dynamics and chaos of articulated cylinders subject to external axial flow," *Journal of Fluids and Structures*, Vol. 7, pp. 719-750.

### Invited Book Chapters

1. Grigorie, L.T., Botez, R. M., 2016, "Morphing Wing Technologies, Large Commercial Aircraft and Civil Helicopters," 1<sup>st</sup> Edition, Elsevier Edition.
2. Grigorie, L.T., Botez, R. M., 2014, "Modeling and simulation based Matlab/Simulink of a strap down inertial navigation system' errors due to the inertial sensors," *MATLAB Applications for the Practical Engineer*, pp. 1-34, INTECH Edition.

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1st of December 2016

3. Grigorie, L.T., Botez, R. M., Popov, A. V., 2012, "Fuzzy logic control of a smart actuation system in a morphing wing, "Fuzzy Controllers – Recent Advances in Theory and Applications", pp. 1-22, ISBN: 979-953-307-843-3, INTECH Edition.
4. Grigorie, L.T., Botez, R. M., 2011, "Applications of fuzzy logic in the design and control of a morphing wing using smart material actuators", "Fuzzy Controllers, Theory and Applications", pp. 253-296, INTECH Edition.
5. Grigorie, L.T., Popov, A. V., Botez, R. M., Mamou, M., Mébarki, Y., 2011, "Design and experimental validation of a combined PI and bi-positional laws controller for delaying the transition from laminar flow to turbulent flow over a morphing wing", Vol. 89, pp. 51-76, "Informatics in Control, Automation and Robotics, Lecture Notes in Electrical Engineering", Springer-Verlag Edition.

## **2.2 Published papers in conference proceedings**

1. Kuitche, M., Segui, M., Ghazi, G., Botez, R., 2017, "New Methodology for Longitudinal Flight Dynamics Modelling of the UAS-S4 Ehecatl towards its Aerodynamics Estimation Modelling", MST-04, Modeling and Simulation of Uninhabited Aerial Vehicles II, AIAA Modeling and Simulation Technologies Conference, AIAA Science and Technology Forum and Exposition 2017, AIAA SciTech 2017, Grapevine, TX, SUA, January 9-13.
2. Segui, M., Kuitche, M., Botez, R., 2017, " Longitudinal Aerodynamic Coefficients of Hydra Technologies UAS-S4 from Geometrical Data", MST-02, Modeling and Simulation of Uninhabited Aerial Vehicles I, AIAA Modeling and Simulation Technologies MST Conference, AIAA Science and Technology Forum and Exposition 2017, AIAA SciTech 2017, Grapevine, TX, SUA, January 9-13.
3. Zaag, M., Botez, R., 2017, "Cessna Citation X Engine Model Identification from Flight Tests based on Neural Networks", MST-18, Modeling and Simulation of Propulsion Systems, AIAA Modeling and Simulation Technologies MST Conference, AIAA Science and Technology Forum and Exposition 2017, AIAA SciTech 2017, Grapevine, TX, SUA, January 9-13.
4. Bardela, P.-A., Botez, R., 2017, "Identification and Validation of the Cessna Citation X Turbofan Modeling with Flight Tests", MST-18, Modeling and Simulation of Propulsion Systems, AIAA Modeling and Simulation Technologies Conference, AIAA Science and Technology Forum and Exposition 2017, AIAA SciTech 2017, Grapevine, TX, SUA, January 9-13.
5. Ghazi, G., Bosne, M., Sammartano, Q., Botez, R., 2017, "Cessna Citation X Stall Characteristics Identification from Flight Data using Neural Networks", MST-11, Model and Simulation Design, Development, Testing, and Validation, AIAA Science and Technology Forum and Exposition 2017, AIAA SciTech 2017, Grapevine, TX, SUA, January 9-13.
6. Koreanschi, A., Sugar Gabor, O., Tondji, Y., Botez, R., 2017, "Numerical and Experimental Testing of a Morphing Upper Surface Wing Equipped with Conventional

- and Morphing Ailerons", APA-36, Applied CFD I: Boundary Layer and Solver Methodologies, AIAA Science and Technology Forum and Exposition 2017, AIAA SciTech 2017, Grapevine, TX, SUA, January 9-13.
7. Murrieta Mendoza, A., Mugnier, P., Botez, R., 2017, "Vertical and Horizontal Flight Reference Trajectory Optimization for a Commercial Aircraft", GNC-09, Trajectory Optimization, AIAA Guidance, Navigation, and Control Conference, AIAA Science and Technology Forum and Exposition 2017, Grapevine, TX, SUA, January 9-13.
  8. Botez, R. M., Koreanschi, A., Sugar Gabor, O., Mebarki, Y., Mamou, M., Tondji, Y., Brianchon, G., Tchatchueng, J., Guezguez, M., Flores Salinas, M., Grigorie, L., Amoroso, F., Pecora, R., Lecce, L., Amendola, L., Dimino, I., Concilio, A., 2016, "Innovative Wing Tip Equipped with Morphing Upper Surface and Morphing Aileron for Greener Aviation", Greener Aviation, Brussels, Belgium, November 11-13.
  9. Ruby, M., Botez, R. M., 2016, "Trajectory Optimization for Vertical Navigation using the Harmony Search Algorithm", International Federation of Automatic Control, 20<sup>th</sup> IFAC Symposium on Automatic Control in Aerospace – ACA 2016, Sherbrooke, Que., Canada, August 21-25.
  10. Murrieta-Mendoza, A., Romain, C., Botez, R. M., 2016, "Commercial Aircraft Lateral Flight Reference Trajectory Optimization", International Federation of Automatic Control, 20<sup>th</sup> IFAC Symposium on Automatic Control in Aerospace – ACA 2016, Sherbrooke, Que., Canada, August 21-25.
  11. Dancila, B. D., Beulze, B., Botez, R. M., 2016, "Geometrical Vertical Navigation Trajectory Optimization – Comparative Performance Evaluation of Phase versus Phase and Altitude-Dependent Preferred Gradient Selection", International Federation of Automatic Control, 20<sup>th</sup> IFAC Symposium on Automatic Control in Aerospace – ACA 2016, Sherbrooke, Que., Canada, August 21-25.
  12. Murrieta-Mendoza, A., Mugnier, P., Botez, R. M., 2016, "Vertical Reference Trajectory Optimization and Simulation for a Commercial Aircraft", 11th International Conference on Modeling, Optimization and Simulation - MOSIM'16, Innovation in Technology for Performant Systems, Montreal, Que., Canada, August 22-24.
  13. Murrieta-Mendoza, A., Romain, C., Botez, R. M., 2016, "3D Reference Trajectory Optimization for a Commercial Aircraft using a Graph Search Algorithm", 11th International Conference on Modeling, Optimization and Simulation - MOSIM'16, Innovation in Technology for Performant Systems, Montreal, Que., Canada, August 22-24.
  14. Nguyen, D. H., Tchatchueng Kammeagne, M. J., Botez, R. M., Grigorie, L., 2016, "Open Loop Morphing Wing Architecture based ANFIS Controller", 16th AIAA Aviation Technology, Integration, and Operations Conference, Washington, DC, USA, June 13-17.
  15. Tchatchueng Kammeagne, M. J., Botez, R. M., Grigorie, L., Mamou, M., Mebarki, Y., 2016, "A Wind Tunnel tested Control System for a Morphing Wing Actuation Mechanism", AIAA Atmospheric Flight Mechanics Conference, Washington, DC, USA, June 13-17.



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1st of December 2016

16. Murrieta Mendoza, A., Hamy, A., Botez, R. M., "Lateral Reference Trajectory Algorithm Using Ant Colony Optimization", 16th AIAA Aviation Technology, Integration, and Operations Conference, Washington, DC, USA, June 13-17.
17. Murrieta Mendoza, A., Bunel, A., Botez, R. M., "Aircraft Vertical Reference Trajectory Optimization With a RTA Constraint Using the ABC Algorithm", 16th AIAA Aviation Technology, Integration, and Operations Conference, Washington, DC, USA, June 13-17.
18. Sugar Gabor O., Koreanschi, A., Botez, R. M., Mamou, M., Mebarki, Y., 2016, "Analysis of the Aerodynamic Performance of a Morphing Wing-Tip Demonstrator Using a Novel Nonlinear Vortex Lattice Method", 34th AIAA Applied Aerodynamics Conference, AIAA Aviation, Washington, DC, USA, June 13-17.
19. Koreanschi, A., Sugar Gabor O., Acotto, J., Botez, R. M., Mamou, M., Mébarki, Y., 2016, "A Genetic Algorithm Optimization Method for a Morphing Wing Tip Demonstrator Validated Using Infra-Red Experimental Data", 34th AIAA Applied Aerodynamics Conference, AIAA Aviation, Washington, DC, USA, June 13-17.
20. Sugar Gabor, O., Koreanschi, A., Botez, R. M., 2016, "Aerodynamic Analysis of Upper Surface Wing Morphing Efficiency for the S4 Hécatl Unmanned Aerial System", 2016 International Conference on Unmanned Aerial Systems ICUAS'16, Arlington, DC, USA, June 7-10.
21. Tondji, Y., Botez, R., 2016, "Numerical-Empirical Estimation and Experimental Validation the Inertial Properties of the Unmanned Aerial System - UAS-S4 of Hydra Technologies", 2016 International Conference on Unmanned Aerial Systems ICUAS'16, Arlington, DC, USA, June 7-10.
22. Boughari, Y., Ghazi, G., Botez, R. M., 2016, "Optimal Control New Methodologies Validation on the Research Aircraft Flight Simulator of the Cessna Citation X Business Aircraft", Book of Abstract, ISBN 978-3-9816624-8-1, Science and Engineering for Reliable Energy, The 6<sup>th</sup> International Conference & Workshop REMOO-2016, Budva, Montenegro, May 18-20.
23. Tchatchueng Kammeagne, M. J., Botez, R. M., Grigorie, T. L., Mamou, M., Mébarki, Y., 2016, "Aircraft Energy Consumption Limitation through Drag Reduction based on Morphing Wing Technology – A New Multidisciplinary Experimental Model", The 6<sup>th</sup> International Conference & Workshop REMOO-2016, Budva, Montenegro, May 18-20.
24. Hamy, A., Murrieta-Mendoza, A., Botez, R., 2016, "Flight Trajectory Optimization to reduce Fuel Burn and Polluting Emissions using a Performance Database and Ant Colony Optimization Algorithm", AEGATS '16 Advanced Aircraft Efficiency in a Global Air Transport System, April 12-14.
25. Tchatchueng Kammeagne, M. J., Botez, R. M., Grigorie, T. L., 2016, "Actuation Mechanism Control in a Morphing Application with a Full Scaled Portion of an Aircraft Wing", IASTED Modelling, Identification and Control Conference, Innsbruck, Austria, February 16-17.
26. Tchatchueng Kammeagne, M. J., Botez, R. M., Mamou, M., Mébarki, Y., Koreanschi, A., Sugar Gabor, O., Grigorie, T. L., 2016, "Experimental Wind Tunnel Testing of a New Multidisciplinary Morphing Wing Model", Advances in Mathematics and Computer Science and their Applications (Book title), Series title: Mathematics and Computers in

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1st of December 2016

- Science and Engineering Series (57), published by WSEAS Press ([www.wseas.org](http://www.wseas.org)), Proceedings of the 18<sup>th</sup> International Conference on Mathematical Methods, Computational Techniques and Intelligent System (MAMECTIS '16), pp. 90-97, Venice, Italy, January 29-31, ISSN: 2227-4588, ISBN: 978-1-61804-360-3.
27. Grigorie, L. T., Botez, R. M., Popov, A. V., 2016, "Self-Adaptive Morphing Wing Model, Smart Actuated and controlled by using a Multi-Loop Controller based on a Laminar Flow Real Time Optimizer", AIAA SciTech 2016, San Diego, CA, January 4-8.
  28. Koreanschi, A., Sugar Gabor, O., Ayrault, T., Botez, R. M., Mamou, M., Mébarki, Y., 2016, "Numerical Optimization and Experimental Testing of a Morphing Wing with Aileron System", AIAA SciTech 2016, San Diego, CA, January 4-8.
  29. Murrieta-Mendoza, A., Hamy, A., Botez, R. M., 2015, "Mach Number Selection for Cruise Phase Using Ant Colony Algorithm for RTA Constraints", International Conference on Air Transport INAIR 2015, Amsterdam, Netherlands, November 12-13.
  30. Ghazi, G., Botez, R. M., Tudor, M., 2015, "Identification of a Cessna Citation X Aero-Propulsive Model in Climb Regime from Flight Tests", International Conference on Air Transport INAIR 2015, Amsterdam, Netherlands, November 12-13.
  31. Murrieta-Mendoza, A., Bunel, A., Botez, R. M., 2015, "Aircraft Lateral Flight Optimization Using Artificial Bees Colony", International Conference on Air Transport INAIR 2015, Amsterdam, Netherlands, November 12-13.
  32. Ghazi, G., Rezk, K. G., Botez, R. M., 2015, "Cessna Citation X Pitch Rate Control Design using Guardian Maps", International Conference on Air Transport INAIR 2015, Amsterdam, Netherlands, November 12-13.
  33. Murrieta-Mendoza, A., Botez, R. M., Patrón, R. S. F., 2015, "Flight Altitude Optimization Using Genetic Algorithms considering Climb and Descent Costs in Cruise with Flight Plan Information", SAE 2015 AeroTech Congress & Exhibition, Seattle, USA, September 22-24.
  34. Murrieta-Mendoza, A., Botez, R., 2015, "Aircraft Vertical Route Optimization Deterministic Algorithm for a Flight Management System", SAE 2015 AeroTech Congress & Exhibition, Seattle, USA, September 22-24.
  35. Ghazi, G., Botez, R., 2015, "Development of a High-Fidelity Simulation Model for a Research Environment", SAE 2015 AeroTech Congress & Exhibition, Seattle, USA, September 22-24.
  36. Ghazi, G., Botez, R. M., Achiqui, J. M., 2015, "Cessna Citation X Engine Model Identification from Flight Tests", SAE 2015 AeroTech Congress & Exhibition, Seattle, USA, September 22-24.
  37. Ghazi, G., Botez, R. M., Tudor, M., 2015, "Performance Database Creation for Cessna Citation X Aircraft in Climb Regime using an Aero-Propulsive Model developed from Flight Tests", Sustainability 2015 - An International Conference on Environmental Sustainability in Air Vehicle Design and Operations of Helicopters and Airplanes, Montreal, Que., Canada, 22 September 22-24.
  38. Murrieta-Mendoza, A., Gagné, J., Botez, R. M., 2015, "GRIB2 Weather Extraction and Use for Flight Optimization Algorithms", Sustainability 2015 - An International Conference on Environmental Sustainability in Air Vehicle Design and Operations of

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1st of December 2016

- Helicopters and Airplanes, Montreal, Que., Canada, September 22-24.
39. Sugar Gabor, O., Botez, R. M., Stan, D., 2015, "Preliminary Analysis of the Lip Wing System for the ALIPTERA VTOL Concept Aircraft", Sustainability 2015 - An International Conference on Environmental Sustainability in Air Vehicle Design and Operations of Helicopters and Airplanes, Montreal, Que., Canada, September 22-24.
40. Murrieta-Mendoza, A., Félix-Patrón, R. S., Botez, R. M., 2015, "Genetic Algorithms for Altitude Optimization During Cruise", Sustainability 2015 - An International Conference on Environmental Sustainability in Air Vehicle Design and Operations of Helicopters and Airplanes, Montreal, Que., Canada, September 22-24.
41. Anthony, J., Hamel, C., Botez, R. M., 2015, "Identification of the Roll Response for the Cessna Citation X Business Aircraft", 39<sup>th</sup> ARA Congress, Frascati, Italy, July 29-31.
42. Anthony, J., Hamel, C., Botez, R. M., 2015, "Optimization of Engine Model Parameters Gain and Time Constant for the Cessna Citation X Business Aircraft Engine", 39<sup>th</sup> ARA Congress, Frascati, Italy, July 29-31.
43. Murrieta Mendoza, A., Beuze, B., Ternisien, L., Botez, R. M., 2015, "Branch & Bound-based Algorithm for Aircraft VNAV Profile Trajectory Optimization", AIAA Aviation 2015, 15<sup>th</sup> AIAA Aviation Technology, Integration, and Operation Conference, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-2280>, Dallas, TX, USA, June 22-26.
44. Felix Patron, R. S., Schindler, M., Botez, R. M., 2015, "Aircraft Trajectories Optimization By Genetic Algorithms To Reduce Flight Cost Using A Dynamic Weather Model", AIAA Aviation 2015, 15<sup>th</sup> AIAA Aviation Technology, Integration, and Operation Conference, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-2281>, Dallas, TX, USA, June 22-26.
45. Liv, A., Dancila, R. I., Botez, R. M., 2015, "Trajectory optimization algorithm for a constant altitude cruise flight with a required time of arrival constraints", AIAA Aviation 2015, 15<sup>th</sup> AIAA Aviation Technology, Integration, and Operation Conference, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-2282>, Dallas, TX, USA, June 22-26.
46. Sugar Gabor, O., Koreanschi, A., Botez, R. M., 2015, "Numerical study of UAS-S4 Éhecatl aerodynamic performance improvement obtained with the use of a morphing wing approach", AIAA Aviation 2015, 33<sup>rd</sup> AIAA Applied Aerodynamics Conference, <http://arc.aiaa.org/doi/10.2514/6.2015-2259>, Dallas, TX, USA, June 22-26.
47. Koreanschi, A., Sugar Gabor, O., Botez, R. M., 2015, "Numerical and Experimental Validation of a Morphed Wing Geometry Using Price-Paidoussis Wind Tunnel Testing", AIAA Aviation 2015, 33<sup>rd</sup> AIAA Applied Aerodynamics Conference, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-3386>, Dallas, TX, June 22-26.
48. Tchatchueng Kammegne, M. J., Nguyen, D-H., Botez, R. M., Grigorie, T. L., 2015, "Control Validation of a Morphing Wing in an Open Loop Architecture", AIAA Aviation 2015, AIAA Modeling and Simulation Technologies Conference, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-2499>, Dallas, TX, June 22-26.
49. Khan, S., Botez, R. M., Grigorie, L. T., 2015, "A New Method for Tuning PI Gains for Position Control of BLDC Motor Based Wing Morphing Actuators", AIAA Aviation 2015, AIAA Modeling and Simulation Technologies Conference, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-2497>, Dallas, TX, June 22-26.

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1st of December 2016

50. Beulze, B., Dancila, B., Botez, R. M., 2015, "Presentation of three methods results comparison for Vertical Navigation VNAV trajectory optimization for the Flight Management System FMS", AIAA Aviation 2015, 15<sup>th</sup> AIAA Aviation Technology, Integration, and Operation Conference, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-2597>, Dallas, TX, June 22-26.
51. Gautier, M. M., Dancila, R., Botez, R. M., 2015, "Optimization of the Cruise Regime of Flight Airplane Trajectory using Deterministic Algorithms", AIAA Aviation 2015, 15<sup>th</sup> AIAA Aviation Technology, Integration, and Operation Conference, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-3179>, Dallas, TX, June 22-26.
52. Communier, D., Salinas Flores, M., Carranza Moyao, O., Botez, R. M., 2015, Aero structural modeling of a wing using CATIA V5 and XFLR5 software and experimental validation using the Price-Paidoussis wing tunnel, *AIAA Aviation 2015, AIAA Atmospheric Flight Mechanics Conference*, <http://arc.aiaa.org/doi/abs/10.2514/6.2015-2558>, Dallas, TX, June 22-26.
53. Aissaoui, R., Hang, A. L., Carranza Moyao, O., Gerald, P., Botez, R., 2015, "Effect of Wind Tunnel Velocity on the Dynamics of Human Walking," *62nd CASI Aeronautics Conference and AGM, 3rd GARDN Conference*, Montreal, Que., Canada, May 19-21.
54. Kazubu, J. N., Botez, R. M., Sugar Gabor, O., 2015, "Design of UAV-S4 composite morphing wing," *62nd CASI Aeronautics Conference and AGM, 3rd GARDN Conference*, Montreal, Que., Canada, May 19-21.
55. Mosbah, A. B., Flores Salinas, M., Ayrault, T., Botez, R., Dao, T. M., 2015, "EGD-ANN model to predict actuators displacements for an open loop morphing wing system," *62nd CASI Aeronautics Conference and AGM, 3rd GARDN Conference*, Montreal, Que., Canada, May 19-21.
56. Ghazi, G., Botez, R. M., 2015, "Lateral Control Design for the Cessna Citation X with Robustness and Handling Qualities," *62nd CASI Aeronautics Conference and AGM, 3rd GARDN Conference*, Montreal, Que., Canada, May 19-21.
57. Nguyen, D. H., Khan, S., Tchatchueng Kammegne, M. J., Botez, R. M., 2015, "A Predictive PID Controller Design for an Actuator attached inside a Morphing Wing," *62nd CASI Aeronautics Conference and AGM, 3rd GARDN Conference*, Montreal, Que., Canada, May 19-21.
58. Botez, R. M., 2015, "Level D Research Aircraft Flight Simulator use for Novel Methodologies in Aircraft Modeling and Simulation," *3rd International Workshop on Numerical Modelling in Aerospace Sciences NMAS 2015*, Bucharest, Romania.
59. Murrieta-Mendoza, A., Demange, S., George, F., Botez, R., 2015, "Performance Database Creation using a Level D Simulator for Aircraft Trajectory Optimization," *IASTED Modeling, Simulation and Control conference*, Innsbruck, Austria, February 16-17.
60. Tchatchueng Kammegne, M. J., Belhadi, H., Nguyen, D-H., Botez, R. M., 2015, "Nonlinear Control Logic for an Actuator to Morph a Wing: Design and Experimental Validation," *IASTED Modeling, Simulation and Control conference*, Innsbruck, Austria, February 16-17.
61. Tchatchueng Kammegne, J., Khan, S., Botez, R. M., 2015, "New Methodology for the Controller of an Electrical Actuator for Morphing a Wing," *The 23rd AIAA/ASME/AHS*

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- Adaptive Structures Conference, American Institute of Aeronautics and Astronautics AIAA Science and Technology Forum 2015, Kissimee, FL, United States, January 5-9.*
62. Vincent, J. B., Botez, R. M., 2015, "Systemic Modeling and Design Approach for Morphing Wing Aileron Controller using Matlab/Simulink," *The 23rd AIAA/ASME/AHS Adaptive Structures Conference, American Institute of Aeronautics and Astronautics AIAA Science and Technology Forum 2015, Kissimee, United States, January 5-9.*
63. Sugar Gabor, O., Koreanschi, A., Botez, R. M., 2014, "Numerical Study of UAS-S4 Ehécatl Aerodynamic Performance Improvement using a Morphing Wing Technology," *Unmanned Systems Canada 2014 Annual Conference, Montreal, Qué., Canada, November 4-6.*
64. Sugar Gabor, O., Simon, A., Koreanschi, A., Botez, R. M., 2014, "Application of a Morphing Wing Technology on Hydra Technologies Unmanned Aerial System UAS-S4," *The ASME 2014 International Mechanical Engineering Congress & Exposition, Montreal, Que., Canada, November 14-20.*
65. Murrieta Mendoza, A., Botez, R. M., 2014, Lateral Navigation Optimization Considering Winds and Temperatures for Fixed Altitude Cruise using the Dijkstra's Algorithm, *The ASME 2014 International Mechanical Engineering Congress & Exposition, Montreal, Que., Canada, November 14-20.*
66. Mosbah, A. B., Botez, R. M., Dao, T. M., 2014, New Methodology for the Calculation of Aerodynamic Coefficients on ATR-42 Scaled Model with Neural Network-EGD Method, *The ASME 2014 International Mechanical Engineering Congress & Exposition, Montreal, Que., Canada, November 14-20.*
67. Felix Patron, R. S., Botez, R. M., 2014, Flight Trajectory Optimization through Genetic Algorithms Coupling Vertical and Lateral Profiles, *The ASME 2014 International Mechanical Engineering Congress & Exposition, Montreal, Que., Canada, November 14-20.*
68. Murrieta Mendoza, A., Botez, R. M., 2014, Method to calculate an Aircraft VNAV Trajectory Cost using a Performance Database, *The ASME 2014 International Mechanical Engineering Congress & Exposition, Montreal, Canada, November 14-20.*
69. Tondji Chendjou, Y. W., Botez, R. M., 2014, Numerical and Experimental Measures of the Unmanned Aerial System UAS-S4 of Hydra Technologies, *SAE 2014 Aerospace Systems and Technology Conference, Cincinnati, United States, September 23-25.*
70. Hamel, C., Botez, R. M., Ruby, M., 2014, Cessna Citation X Airplane Grey-Box Model Identification without Preliminary Data. *SAE 2014 Aerospace Systems and Technology Conference, Cincinnati, United States, September 23-25.*
71. Mosbah, A. B., Botez, R. M., Dao, T. M., 2014, New Methodology for the Prediction of the Aerodynamic Coefficients of an ATR-42 Scaled Wing Model, *SAE 2014 Aerospace Systems and Technology Conference, Cincinnati, United States, September 23-25.*
72. Boughari, Y., Botez, R. M., Ghazi, G., Theel, F., 2014, Evolutionary Algorithms for Robust Cessna Citation X Flight Control, *SAE 2014 Aerospace Systems and Technology Conference, Cincinnati, United States, September 23-25.*

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 1st of December 2016

73. Sugar Gabor, O., Simon, A., Koreanschi, A., Botez, R., 2014, Numerical Optimization of the UAS-S4 Ehecattl Morphing Airfoil, *AIAA's Aviation 2014*, Atlanta, GA, USA, June 16-20.
74. Koreanschi, A., Gabor Sugar, O., Botez, R. M., 2014, Boundary Layer Behavior on Morphing Upper Surface Wings with Shape Changing Aileron - New Analysis Techniques, *AIAA's Aviation 2014*, Atlanta, GA, USA, June 16-20.
75. Murrieta Mendoza, A., Botez, R. M., Labour, D., 2014, Navigation Trajectory Optimization Algorithm for the FMS CMA-9000, *AIAA's Aviation 2014*, Atlanta, GA, USA, June 16-20.
76. Grigorie, T. L., Popov, A. V., Botez, R. M., 2014, Control Strategies for an Experimental Morphing Wing Model, *AIAA's Aviation 2014*, AeroServoElasticity Session Invited Paper, Atlanta, GA, USA, June 16-20.
77. Patron Felix, R. S., Berrou, Y., Botez, R. M., 2014, Climb, Cruise and Descent 3D Trajectory Optimization Algorithm for the FMS CMA-9000 on the Airbus A310, *AIAA's Aviation 2014*, Atlanta, GA, USA, June 16-20.
78. Dancila, B. D., Botez, R. M., 2014, Construction of an Aircraft's VNAV Flight Envelope for in-FMS Flight Trajectory Computation and Optimization: Application on the Airbus A310 Performance Data, *AIAA's Aviation 2014*, Atlanta, GA, USA, June 16-20.
79. Grigorie, L. T., Sandu, D. G., Botez, R. M., 2014, A Redundant Aircraft Attitude System Based on Fuzzy Logic Data Fusion of the Miniaturized Inertial Sensors, *AHS 70<sup>th</sup> Annual Forum & Technology Display*, Montreal, Que., Canada, May 20-22.
80. Ghazi, G., Botez, R. M., 2014, New Robust Control Analysis Methodology for Lynx Helicopter and Cessna Citation X Aircraft Using Guardian Maps, Genetic Algorithms and LQR Theories Combinations, *AHS 70<sup>th</sup> Annual Forum & Technology Display*, Montreal, Que., Canada, May 20-22.
81. Mendoza-Murrieta, A., Botez, R., Ford, S., 2014, "Estimation of fuel consumption and polluting emissions generated during the missed approach procedure, " *IASTED Modeling, Simulation and Control conference*, Innsbruck, Austria, February 17 – 19.
82. Kammegne Tchatchueng, M. J., Grigorie, L. T., Botez, R. M., Koreanschi, A., 2014, "Design and validation of a position controller in the Price-Paidoussis wind tunnel, " *IASTED Modeling, Simulation and Control conference*, Innsbruck, Austria, February 17<sup>th</sup> – 19<sup>th</sup>.
83. Boughari, Y., Botez, R. M., Theel, F., Ghazi, G., 2014, "Optimal Flight Control on Cessna Citation X Aircraft using Differential Evolution, " *IASTED Modeling, Simulation and Control conference*, Innsbruck, Austria, February 17<sup>th</sup> – 19<sup>th</sup>.
84. Grigorie, L.T., Jula, N., Negrea, R., Obreja, R., Botez, R. M., 2014, "Optimization of a smart accelerometer based on amplitude-frequency characteristics constraints, " *IASTED Modeling, Simulation and Control conference*, Innsbruck, Austria, February 17<sup>th</sup> – 19<sup>th</sup>.
85. Grigorie, L. T., Botez, R. M., Sandu, D. G., 2014, "Experimental testing of a data fusion algorithm for miniaturized sensors in redundant configurations, " *MMSSE 2014, The 2014 International Conference on Mathematical Methods, Mathematical Models and Simulation in Science and Engineering*, Interlaken, Switzerland, February 20<sup>th</sup> – 22<sup>nd</sup>.

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1st of December 2016

86. Botez, R. M., 2014, "New controller design and experimental validation using wind tunnel tests for a morphing wing, " *Greener Aviation Clean Sky breakthroughs and worldwide status*, Brussels, Belgium, March 12-14.
87. Botez, R. M., 2014, "Optimization of aircraft flight trajectories for Flight Management System, " *Greener Aviation Clean Sky breakthroughs and worldwide status*, Brussels, Belgium, March 12-14.
88. Cauzard, V., Simon, A., Botez, R., 2013, "Aerodynamics simulation of the Hydra Technologies Unmanned Aerial System UAS S4 using the Fluent Code", *SAE 2013 AeroTech Congress & Exhibition*, Montreal, Que., Canada, 24-26 September.
89. Hamel, C., Sassi, A., Botez, R., Dartiques, C., 2013, "Cessna Citation X aircraft global model identification from flight tests", *SAE 2013 AeroTech Congress & Exhibition*, Montreal, Que., Canada, 24-26 September.
90. Sugar Gabor, O., Koreanschi, A., Botez, R., 2013, "Optimization of an Unmanned Aerial System' Wing Using a Flexible Skin Morphing Wing", *SAE 2013 AeroTech Congress & Exhibition*, Montreal, Que., Canada, 24-26 September.
91. Mosbah, B. A., Flores Salinas, M., Botez, R., Dao, T., 2013, "New Methodology for Wind Tunnel Calibration Using Neural Networks - EGD Approach", *SAE 2013 AeroTech Congress & Exhibition*, Montreal, Que., Canada, 24-26 September.
92. Michaud, F., Joncas, S., Botez, R., 2013, "Design, Manufacturing and Testing of a Small-Scale Composite Morphing Wing", *The 19th International Conference on Composite Materials*, Montreal, Que., Canada, July 28-August 2<sup>nd</sup>.
93. Grigorie, L. T., Botez, R.M., 2013, "Redundant Inertial Navigator for Robotic Applications", *10<sup>th</sup> International Conference on Informatics in Control, Automation and Robotics – ICINCO 2013*, Reykjavik, Iceland, July 29-31.
94. Grigorie, L. T., Botez, R.M., 2013, "A redundant aircraft attitude system based on miniaturized gyro clusters data fusion", *International conference on computer as a tool - EUROCON 2013*, Zagreb, Croatia, pp. 1992-1999, July 1–4.
95. Gagné, J., Mendoza-Murrieta, A., Botez, R. Labour, D., 2013, "New method for aircraft fuel saving using Flight Management System and its validation on the L-1011 aircraft" *2013 Aviation Technology, Integration, and Operations (ATIO) Conference and International Powered Lift Conference (IPLC)*, Los Angeles, USA, August 12-14.
96. Felix Patron, R. S., Botez, R. M., Labour, D., 2013, "Speed and altitude optimization on the FMS CMA-9000 for the Sukhoi Superjet 100 using genetic algorithms", *2013 Aviation Technology, Integration, and Operations (ATIO) Conference and International Powered Lift Conference (IPLC)*, Los Angeles, CA, USA, August 12-14.
97. Felix Patron, R. S., Botez, R. M., Labour, D., 2013, "Low calculation time interpolation method on the altitude optimization algorithm for the FMS CMA-9000 improvement on the A-310 and L-1011 aircraft", *2013 Aviation Technology, Integration, and Operations (ATIO) Conference and International Powered Lift Conference (IPLC)*, Los Angeles, CA, USA, August 12-14.
98. Dancila, R., Botez, R., Ford, S., 2013, "Fuel burn and emissions evaluation for a missed approach procedure performed by a B737-400", *2013 Aviation Technology, Integration, and Operations (ATIO) Conference and International Powered Lift Conference (IPLC)*, Los Angeles, USA, August 12-14.

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1st of December 2016

99. Felix Patron, R. S., Kessaci, A., Botez, R. M., Labour, D., 2013, "Flight trajectories optimization under the influence of winds using genetic algorithms", *AIAA Guidance, Navigation, and Control Conference*, Boston, USA, August 19-22.
100. Mosbah, A. B., Botez, R. M., Dao, T.M., 2013, "New methodology for calculating flight parameters with neural network – Extended Great Deluge method applied on a reduced scale wind tunnel model of an ATR-42 wing", *AIAA Modeling and Simulation Technologies (MST) Conference*, Boston, USA, August 19-22.
101. Grigorie, L.T., Popov, A. V., Botez, R. M., 2013, "Control of Actuation System Based Smart Material Actuators in a Morphing Wing Experimental Model", *Invited paper in the AeroServoElasticity Session at the AIAA Atmospheric Flight Mechanics (AFM) Conference*, Boston, USA, August 19-22.
102. Sugar Gabor, O., Koreanschi, A., Botez, R. M., 2013, "Unmanned Aerial System Hydra Technologies Éhecatl wing optimization using a morphing approach", *AIAA Atmospheric Flight Mechanics (AFM) Conference*, Boston, USA, August 19-22.
103. Felix Patron, R. S., Owono, A. C., Botez, R. M., Labour, D., 2013, "Optimized cruise in the presence of winds for the FMS CMA-9000 using genetic algorithms, " *CASI AÉRO 2013 conference, 60<sup>th</sup> Aeronautics Conference and AGM*, Toronto, Ont., Canada, April 30<sup>th</sup> – May 2<sup>nd</sup>.
104. Sidibe, S., Botez, R., 2013, "Trajectory optimization of FMS-CMA 9000 by dynamic programming", *CASI AÉRO 2013 conference, 60<sup>th</sup> Aeronautics Conference and AGM*, Toronto, Ont., Canada, April 30<sup>th</sup> – May 2<sup>nd</sup>.
105. Gabor Sugar, O., Koreanschi, A., Botez, R. M., 2013, "An efficient numerical lifting line method for practical wing optimization through morphing on the Hydra Technologies UAS-S4", *CASI AÉRO 2013 conference, 60<sup>th</sup> Aeronautics Conference and AGM*, Toronto, Canada, April 30<sup>th</sup> – May 2<sup>nd</sup>.
106. Hassig, A., Brossard, J., Botez, R., 2013, "Calibration issues in the Subsonic Price - Paidoussis Wind Tunnel", *CASI AÉRO 2013 conference, 60<sup>th</sup> Aeronautics Conference and AGM*, Toronto, Ont., Canada, April 30<sup>th</sup> – May 2<sup>nd</sup>.
107. Mosbah, A. B., Botez, R. M., Dao, T.M., 2013, "New methodology for calculating flight parameters with neural network – EGD method", *CASI AÉRO 2013 conference, 60<sup>th</sup> Aeronautics Conference and AGM*, Toronto, Ont., Canada, April 30<sup>th</sup> – May 2<sup>nd</sup>.
108. Boughari, Y., Ghazi, G., Theel, F., Botez, R., 2013, "Business aircraft flight control system using robust H-infinity controllers on Cessna Citation X", *CASI AÉRO 2013 conference, 60<sup>th</sup> Aeronautics Conference and AGM*, Toronto, Ont., Canada, April 30<sup>th</sup> – May 2<sup>nd</sup>.
109. Fays, J., Botez, R. M., 2013, "Aircraft trajectories generation by use of No Fly Zones self-management for a Flight Management System," *15<sup>th</sup> Australian International Aerospace Congress*, Melbourne, VIC, Australia, 25-28 February.
110. Dancila, B. D., Botez, R.M., Labour, D., 2012, "Altitude optimization algorithm for cruise, constant speed and level flight segments," *AIAA Guidance, Navigation and Control conference*, Minneapolis, MN, USA, August 13-16.
111. Vincent, J.B., Botez, R.M., Popescu, D., Ghazi, G., 2012, "New methodology for a business aircraft model Hawker 800 XP stability analysis using Presagis FLsim," *AIAA*



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1st of December 2016

- Modelling and Simulation Technologies conference*, Minneapolis, MN, USA, August 13-16.
112. Grigorie, L. T., Botez, R. M., Popov, A.V., 2012, "Design and experimental validation of a control system for a morphing wing," *AIAA Atmospheric Flight Mechanics conference, Invited session paper*, Minneapolis, MN, USA, August 13-16.
  113. Fajardo Rodriguez, L., Botez, R.M., 2012, "Generic new modelling technique for turbofan engines thrust," *AIAA Modelling and Simulation Technologies conference*, Minneapolis, MN, USA, August 13-16.
  114. Anton, N., Botez, R., 2012, "Weight functions method for stability analysis: applications and experimental validation for Hawker 800XP aircraft," *AIAA Modelling and Simulation Technologies conference*, Minneapolis, MN, USA, August 13-16.
  115. Silisteanu, P.D., Botez, R. M., 2012, "Two-dimensional airfoil shape optimization for airfoils at low speeds," *AIAA Atmospheric Flight Mechanics Conference, Invited session paper*, Minneapolis, MN, USA, August 13-16.
  116. Grigorie, L.T., Botez, R.M., Sandu, D. G., Obreja, R., 2012, "A redundant bi-dimensional inertial navigator in vertical plane," *16th WSEAS International Conference on Systems (Part of CSCC'12)*, Kos Island, Greece, July 14-16.
  117. Grigorie, L.T., Edu, I. R., Obreja, R., Botez, R. M., 2012, "A numerical implemented method for the aircraft attitude determination," *IASTED conference in Applied Simulation and Modeling*, Naples, Italy, June 25-27.
  118. Anton, N., Botez, R. M., 2012, "Aircraft X-31 stability analysis and validation with experimental data," *IASTED conference in Applied Simulation and Modeling*, Naples, Italy, June 25-27.
  119. Fafardo Rodriguez, L., Botez, R. M., 2012, "Civil turbofan engines semi-empirical thrust generic model," *IECON 2012 conference – 38<sup>th</sup> Annual Conference of IEEE Industrial Electronics*, Montreal, Que., Canada, October 25-28.
  120. Sugar Gabor, O., Koreanschi, A., Botez, R. M., 2012, "Low-speed aerodynamic characteristics improvement of ATR 42 airfoil using a morphing wing approach," *IECON 2012 conference – 38<sup>th</sup> Annual Conference of IEEE Industrial Electronics*, Montreal, Que., Canada, October 25-28.
  121. Patron Felix, R. S., Botez, R. M., Labour, D., 2012, "Vertical profile optimization for the Flight Management System CMA-9000 using the golden section search method," *IECON 2012 conference – 38<sup>th</sup> Annual Conference of IEEE Industrial Electronics*, Montreal, Que., Canada, October 25-28.
  122. Grigorie, L. T., Botez, R. M., Edu, I. R., Corcau, J., 2012. "Bi-dimensional SDINS in horizontal plane with miniaturized redundant IMU", *IECON 2012 conference – 38<sup>th</sup> Annual Conference of IEEE Industrial Electronics*, Montreal, Que., Canada, October 25-28.
  123. Boughari, Y., Botez, R. M., 2012, "Optimal flight control on the Hawker 800 XP business aircraft," *IECON 2012 conference – 38<sup>th</sup> Annual Conference of IEEE Industrial Electronics*, Montreal, Que., Canada, October 25-28.
  124. Grigorie, L.T., Edu, I. R., Obreja, R., Botez, R. M., 2012, "An attitude software tool based on a matrix method," *The 36th ARA Congress - Learning without frontiers*, Bari, Italy, 29 May-3 June.

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1st of December 2016

125. Grigorie, L. T., Botez, R. M., Popov, A. V., Mamou, M., Mébarki, Y., 2011, "Intelligent control of smart actuators in a new closed loop morphing wing mechanism," *ICAST - The 22nd International Conference on Adaptive Structures Technologies*, Corfu, Greece, October 10-12.
126. Anton, N., Botez, R. M., 2011, "A new type of the stability derivatives for X-31 model aircraft validated using wind tunnel test data," *Applied Vehicle Technology Panel Specialists Meeting AVT-189, Assessment of Stability and Control Prediction Methods for NATO Air and Sea Vehicles*, Dstl Portsmouth West, Fareham, Hampshire, United Kingdom, October 12-14.
127. Grigorie, L. T., Popov, A. V., Botez, R. M., Mamou, M., Mébarki, Y., 2011, "Smart concepts for actuation system and its control in a morphing wing," *13th National Conference Caius Iacob in Fluid Mechanics and Technological Applications*, INCAS, Bucharest, Romania, September 29-30.
128. Grigorie, L.T., Botez, R. M., Popov, A.V., Mamou, M., Mébarki, Y., 2011, "A new morphing mechanism for a wing using smart actuators controlled by a self-tuning fuzzy logic controller," *AIAA Centennial of Naval Aviation Forum: 100 Years of Achievement and Progress*, Virginia Beach, VA, USA, September 20-22.
129. Grigorie, L.T., Popov, A.V., Botez, R. M., Mamou, M., Mébarki, Y., 2011, "Controller and Aeroelasticity Analysis for a Morphing Wing," *Session for Invited Papers: Aircraft Aeroservoelastic Control, Modeling, Simulation and Optimization, AIAA Atmospheric Flight Mechanics Conference*, Portland, OR, USA, August 8-11.
130. Grigorie, L. T., Botez, R. M., 2011, "Miniaturized inertial sensors' noise reduction by using redundant linear configurations," *The 19<sup>th</sup> IASTED International Conference on Applied Simulation and Modeling*, Crete, Greece, June 22-24.
131. Grigorie, L. T., Popov, A. V., Botez, R. M., Mamou, M., Mébarki, Y., 2011, "Intelligent control of a morphing wing, Part 1: Design phase," *The 19<sup>th</sup> IASTED International Conference on Applied Simulation and Modeling*, Crete, Greece, June 22-24.
132. Grigorie, L. T., Popov, A. V., Botez, R. M., Mamou, M., Mébarki, Y., 2011, "Intelligent control of a morphing wing, Part 2: Validation phase," *The 19<sup>th</sup> IASTED International Conference on Applied Simulation and Modeling*, Crete, Greece, June 22-24.
133. Langlet, B., Salameh, T., Botez, R. M., Labour, D., 2011, "FMS optimization and climb during cruise regime," *Canadian Aeronautics and Space Institute CASI AÉRO 11, 58th Aeronautics Conference and AGM*, Montreal, Que., Canada, April 26-28.
134. Dancila, B., Botez, R.M., Labour, D., 2011, "Altitude optimization algorithm for cruise, constant speed, level flight segments," *Canadian Aeronautics and Space Institute CASI AÉRO 11, 58th Aeronautics Conference and AGM*, Montreal, Que., Canada, April 26-28.
135. Fays, J., Botez, R.M., 2011, "Generation and following of 4D trajectories for an aircraft, using no Fly Zones self-management for a flight management system application," *Canadian Aeronautics and Space Institute CASI AÉRO 11, 58th Aeronautics Conference and AGM*, Montreal, Que., Canada, April 26-28.
136. Grigorie, L.T., Obreja, R., Botez, R.M., Sandu, D., 2011, "Error model of a bidimensional SDINS in vertical plane," *Canadian Aeronautics and Space Institute CASI AÉRO 11, 58th Aeronautics Conference and AGM*, Montreal, Que., Canada, April 26-28.

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1st of December 2016

137. Pollender-Moreau, O., Botez, R.M., 2011, "Practical sequencing method between aerodynamic modeling using the Vortex Lattice Method and a simulation platform for an autopilot using optimal control techniques," *Canadian Aeronautics and Space Institute CASI AÉRO 11, 58th Aeronautics Conference and AGM*, Montreal, Que., Canada, April 26-28.
138. Silisteanu, P. D., Botez, R.M., 2011, "Fast procedure for two dimensional airfoil design," *Canadian Aeronautics and Space Institute CASI AÉRO 11, 58th Aeronautics Conference and AGM*, Montreal, Que., Canada, April 26-28.
139. Anton, N., Botez, R.M., 2011, "The weight function method and its application to the mid-size Hawker 800 XP corporate aircraft," *Canadian Aeronautics and Space Institute CASI AÉRO 11, 58th Aeronautics Conference and AGM*, Montreal, Que., Canada, April 26-28.
140. Grigorie, L. T., Botez, R. M., Popov, A.V., Mamou, M., Mébarki, Y., 2011, "An Intelligent Controller based Fuzzy Logic Techniques for a Morphing Wing Actuation System using Shape Memory Alloy," *52nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Denver, CO., USA, April 4-7.
141. Boëly, N., Botez, R. M., 2010, "New Methodologies for the Identification and Validation of a Nonlinear F/A-18 Model by use of Neural Networks," *Invited Papers Session: Aircraft Aeroservoelastic Control, Modeling, Simulation, and Optimization, AIAA Atmospheric Flight Mechanics Conference*, Toronto, Ont., Canada, August 2-5.
142. Silisteanu, P. D., Botez, R.M., 2010, "New Fourth Order Code for the Three Dimensional Integration of the Euler System of Equations," *The Royal Aeronautical Society RAeS Aerodynamics Conference*, Bristol, United Kingdom, July 27-28.
143. Popov, A.V., Grigorie, L. T., Botez, R. M., Mamou, M., Mebarki, Y., 2010, "Morphing Wing Real Time Optimization in Wind Tunnel Tests," *The International Conference on Informatics in Control, Automation and Robotics ICINCO 2010*, Madeira, Portugal, June 15-18.
144. Grigorie, L. T., Popov, A. V., Botez, R. M., Mamou, M., Mebarki, Y., 2010, "A Morphing Wing Used Shape Memory Alloy Actuators New Control Technique with Bi-Positional and PI Laws Optimum Combination Wind – Part 1: Design Phase," *The International Conference on Informatics in Control, Automation and Robotics ICINCO 2010*, Madeira, Portugal, June 15-18.
145. Grigorie, L. T., Popov, A. V., Botez, R. M., Mamou, M., Mebarki, Y., 2010, "A Morphing Wing Used Shape Memory Alloy Actuators New Control Technique with Bi-Positional and PI Laws Optimum Combination Wind – Part 2: Experimental Validation," *The International Conference on Informatics in Control, Automation and Robotics ICINCO 2010*, Funchal, Madeira, Portugal, June 15-18.
146. Popov, A.V., Grigorie, L. T., Botez, R. M., Mamou, M., Mebarki, Y., 2010, "Controller Optimization in Real Time for a Morphing Wing in a Wind Tunnel," *The 15<sup>th</sup> IEEE Mediterranean Electrotechnical Conference MELECON*, La Valetta, Malta, April 26-28.
147. Grigorie, L. T., Botez, R. M., 2010, "Adaptive Neuro-Fuzzy Inference Controllers for Smart Material Actuators," *51<sup>st</sup> AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Orlando, Florida, USA, April 12-15.
148. Mamou, M., Mébarki, Y., Khalid, M., Genest, M., Coutu, D., Popov, A.V., Sainmont, C., Georges, T., Grigorie, L. T., Botez, R. M., Brailovski, V., Terriault, P., Paraschivoiu, I.,

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1st of December 2016

- Laurendeau, E., 2010, Aerodynamic Performance Optimisation of a Wind Tunnel Morphing Wing Model subject to various cruise flow conditions, *27th International Congress of the Aeronautical Sciences ICAS 2010*, Nice, France.
149. Grigorie, L. T., Botez, R. M., 2010, "Neuro-Fuzzy Controller for SMAs for a Morphing Wing Application," *51<sup>st</sup> AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Orlando, Florida, USA, April 12-15.
150. Courchesne, S., Popov, A.V., Botez, R. M., 2010, "New Aeroelastic Studies for a Morphing Wing," *48<sup>th</sup> AIAA Aerospace Sciences Meeting including The New Horizons Forum and Aerospace Exposition*, Orlando, Florida, USA, January 7-10.
151. Silisteanu, P. D., Botez, R. M., 2010, "Transition Flow Occurrence Estimation New Method," *48<sup>th</sup> AIAA Aerospace Sciences Meeting including The New Horizons Forum and Aerospace Exposition*, Orlando, Florida, USA, January 7-10.
152. Popov, A.V., Grigorie, L. T., Botez, R. M., 2009, "Morphing Wing Control Validation during Bench Tests," *International Association of Science and Technology for Development IASTED Identification, Control and Applications Conference*, Honolulu, Hawaii, USA, August 17-19.
153. Grigorie, L. T., Popov, A.-V., Botez, R. M., Mamou, M., Mebarki, Y., 2009, "Modeling and Testing of a Morphing Wing in Open Loop Architecture," *International Association of Science and Technology for Development IASTED Applied Simulation and Modeling Conference*, Honolulu, Hawaii, USA, August 17-19.
154. Gobeault, J., Boëly, N., Quentin, C., Couffignal, M., Botez, R. M., Triandaf, I., 2009, "Methods of Modelling of an Underwater Unmanned Vehicle," *AIAA Guidance, Navigation, and Control Conference*, Chicago, IL, USA, August 10-13.
155. De Jesus Mota, S., Botez, R. M., 2009, "New Identification Method based on Neural Network for Helicopters from Flight Test Data," *AIAA Atmospheric Flight Mechanics Conference*, Chicago, IL, USA, August 10-13.
156. Popov, A.V., Botez, R. M., Mamou, M., Grigorie, L. T., 2009, "Temperature Variation of Optical Sensors on a Wing during Wind Tunnel Tests," *AIAA Guidance, Navigation, and Control Conference*, Chicago, IL, USA, August 10-13.
157. Grigorie, T. L., Botez, R. M., Popov, A.V., 2009, "Adaptive Neuro-Fuzzy Controllers for an Open Loop Morphing Wing System," *AIAA Guidance, Navigation, and Control Conference*, Chicago, IL, USA, August 10-13.
158. Anton, N., Botez, R. M., Popescu, D., 2009, "New Methodologies for Aircraft Stability Derivatives Determination from its Geometrical Data," Paper AIAA 2009-6046, *AIAA Atmospheric Flight Mechanics Conference*, Chicago, IL, USA, August 10-13.
159. Hidee, A., Boëly, N., Botez, R. M., 2009, "Closed Loop Control Schemes for Aeroservoelasticity Studies," Paper AIAA 2009-6121, *AIAA Guidance, Navigation, and Control Conference*, Chicago, IL, USA, August 10-13.
160. Anton, N., Botez, R. M., Popescu, D., 2009, "New Methods and Code for Aircraft Stability Derivatives Calculations from its Geometrical Data," *Canadian Aeronautical Society Institute CASI Aircraft Design and Development Symposium*, Kanata, Ont., Canada, May 5-7.

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1st of December 2016

161. Gobeault, J., Botez, R. M., Triandaf, I., 2009, "Modeling and Simulation Methods of an Underwater Unmanned Vehicle," *Canadian Aeronautical Society Institute CASI Aircraft Design and Development Symposium*, Kanata, Ont., Canada, May 5-7.
162. Popov, A.V., Grigorie, L. T., Botez, R. M., 2009, "Control of a Morphing Wing in Bench Tests," *Canadian Aeronautical Society Institute CASI Aircraft Design and Development Symposium*, Kanata, Ont., Canada, May 5-7.
163. Silisteanu, P.D., Botez, R. M., 2009, "New Methods for Transition Studies," *Canadian Aeronautical Society Institute CASI Aerodynamics Symposium*, Kanata, Ont., Canada, May 5-7.
164. Popov, A.V., Botez, R. M., Mamou, M., Mebarki, Y., Jahrhaus, B., Khalid. M., Grigorie, T. L., 2009, "Drag Reduction by Improving Laminar Flows past Morphing Configurations," *AVT-168 NATO Symposium on Morphing Vehicles*, Evora, Portugal, April 20 - 23.
165. Botez, R. M., Grigorie, L. T., Popov, A.V., 2009, "Laminar to Turbulent Flow Transition Control on a Morphing Wing equipped with Smart Actuators and Optical Sensors," *AVT-168 NATO Symposium on Morphing Vehicles*, Evora, Portugal, April 20-23.
166. Nadeau-Beaulieu, M., Botez, R. M., 2009, "Helicopter Main and Tail Rotor Prediction and Engine Parameters Prediction from Flight Test Data," *7<sup>th</sup> Australian Pacific Vertiflite Conference on Helicopter Technology*, Melbourne, VIC, Australia, March 9-12.
167. Boëly, N., Botez, R., Kouba, G., Brenner, M., 2009, "Identification of a Nonlinear Model between Control and Structural Deflections of an F/A-18 Aircraft," *47<sup>th</sup> AIAA Aerospace Sciences Meeting including The New Horizons Forum and Aerospace Exposition*, Paper *AIAA 2009-426*, Orlando, Florida, USA, January 5-8.
168. Kouba, G., Botez, R., Boëly, N., 2009, "Identification of F/A-18 Model from Flight Tests using the Fuzzy Logic Method," *47<sup>th</sup> AIAA Aerospace Sciences Meeting including The New Horizons Forum and Aerospace Exposition*, Orlando, Florida, USA, January 5-8.
169. Labib, M., Popov, A.V., Fays, J., Botez, R. M., 2008, "Transition Point Displacement Control on a Wing equipped with Actuators," *AIAA Guidance, Navigation and Control Conference and Exhibit*, Honolulu, Hawaii, USA, August 18-21.
170. Popov, A. V., Botez, R. M., 2008, "Open Loop Control of the Transition Point Position on a Morphing Wing," *32<sup>nd</sup> Congress of the American Romanian Academy of Arts and Sciences ARA*, Boston, USA, July 22-28.
171. Botez, R. M., Cotoi, I., 2008, "Aerodynamic Force Optimization for Aircraft," *International Conference on Engineering Optimization*, Rio de Janeiro, Brazil, June 1-5.
172. Botez, R. M., Grigorie, L. T., Hiliuta, A., 2008, "Analytical and Simulation Method Validation for Flutter Aeroservoelasticity Studies," *AVT-156 Advanced Aeroelasticity NATO Meeting*, Loen, Norway, May 5-9.
173. Nadeau Beaulieu, M., Botez, R. M., 2008, "Prediction of Main Rotor, Tail Rotor and Engine Parameters from Flight Tests," *49<sup>th</sup> AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Paper *AIAA 2008-2181*, Schaumburg, IL, USA, April 7-11.
174. Botez, R. M., Rotaru, M., 2007, "Analysis of Flying Qualities for an F/A-18 Aircraft," *International Association of Science and Technology for Development IASTED Applied Simulation and Modeling*, Palma de Mallorca, Spain, August 29-31.

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175. De Jesus Mota, S., Nadeau Beaulieu, M., Botez, R. M., Brenner, M., 2007, "Modeling of Structural Deflections on a F/A-18 Aircraft following Flight Flutter Tests by Use of the Subspace Method," *Invited Papers Session: Aircraft Aeroservoelastic Control, Modeling, Simulation, and Optimization, AIAA Atmospheric Flight Mechanics Conference and Exhibit*, Hilton Head, SC, USA, August 20-23.
176. Nadeau Beaulieu, M., De Jesus Mota, S., Botez, R. M., 2007, "Flight Model Identification of an F/A-18 from Flight Tests," *17<sup>th</sup> International Federation of Automatic Control IFAC Symposium on Automatic Control in Aerospace*, Toulouse, France, June 25-29.
177. De Jesus Mota, S., Nadeau-Beaulieu, M., Botez, R. M., 2007, "Subspace Method for an F/A-18 Aircraft," *International Forum on Aeroelasticity and Structural Dynamics IFASD*, Stockholm, Sweden, June 18-21.
178. Biskri, D. E., Botez, R. M., 2007, "Method for Aerodynamic Forces Optimizations based on an Analytical Error Formulation," *7<sup>th</sup> World Congress on Structural and Multidisciplinary Optimization*, Seoul, Korea, May 21-25.
179. Labib, M., Botez, R. M., Popov, A., 2007, "Determination of the Transition Point on the Upper Surface of a Wing Airfoil," *Canadian Aeronautical Society Institute CASI Aerodynamics Conference*, Toronto, Ont., Canada, April 25-26.
180. Birla, L., Botez, R., Popov, A., Coutu, D., 2007, "Validation of Laminar to Turbulent Transition on a Wing Airfoil," *Canadian Aeronautical Society Institute CASI Aircraft Design and Development Conference*, Toronto, Ont., Canada, April 25-26.
181. Botez, R. M., Molaret, P., Laurendeau, E., 2007, "Laminar Flow Control on a Research Wing – Project Presentation on a Three-Year Period," *Canadian Aeronautical Society Institute CASI Aircraft Design and Development Conference*, Toronto, Ont., Canada, April 25-26.
182. Botez, R. M., Rotaru, M., 2007, "Relationships between Flying Qualities and Flight Test Parameters for the F/A-18 Aircraft," *Canadian Aeronautical Society Institute CASI Aircraft Design and Development Conference*, Toronto, Ont., Canada, April 25-26.
183. Nadeau Beaulieu, M., De Jesus Mota, S., Botez, R. M., 2007, "F/A-18 Active Aero-Elastic Wing Aircraft Model Identification from Flight Flutter Test Data," *Canadian Aeronautical Society Institute CASI Aircraft Design and Development Conference*, Toronto, Canada, April 25-26.
184. Botez, R.M., Fayard, B., Alban, B., Dionne, P., Mamert, A., Popescu, D., 2007, "Stability Derivatives Calculations and Integrations on an Aircraft Flight Model," *12<sup>th</sup> Australian International Aerospace Conference AIAC*, Melbourne, Australia, March 20-22.
185. Botez, R. M., Hiliuta, A., Grigorie, L., 2007, "Simulation Method for Rigid and Control Modes Aeroservoelastic Interactions," *International Association of Science and Technology for Development IASTED Modelling, Identification, and Control Conference*, Innsbruck, Austria, February 12-14.
186. Nadeau Beaulieu, M., Botez, R. M., Hiliuta, A., Popov, A.V., 2006, "Ground Dynamics Model Validation by use of Landing Flight Test Data," *AIAA Modeling and Simulation Technologies Conference and Exhibit*, Keystone, Colorado, USA, August 21-24.

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187. Grigorie, T. L., Botez, R., 2006, "Validation of Aeroservoelastic Interactions between the Rigid, Elastic and Control Modes," *31<sup>st</sup> Congress of the American Romanian Academy of Arts and Sciences ARA*, Brasov, Romania, July 31-August 5.
188. Biskri, D. E., Botez, R. M., 2006, "Aerodynamic Forces Approximations Calculated with a New Analytical Formulation," *ASME Pressure Vessels and Piping 2006/ICPVT-11 Conference*, Vancouver, Canada, July 23-27.
189. Botez, R. M., Biskri, D. E., 2006, "Simulation Method based on Analytical Error Correction for Aeroservoelastic Interactions Studies on an F/A-18 SRA Aircraft," *International Association of Science and Technology for Development IASTED Applied Simulation and Modeling Conference*, Rhodes, Greece, June 26-28.
190. Nadeau-Beaulieu, M., Botez, R. M., Hiliuta, A., Popov, A., 2006, "Validation of a Ground Dynamics Model Formulation by use of Landing Data," *The International Symposium on Industrial Electronics IEEE\_ISIE*, Montreal, Que., Canada, July 9-13.
191. Botez, R. M., Dinu, A. D., Cotoi, I., 2006, "Optimization of Unsteady Aerodynamic Forces for Aircraft Aeroservoelastic Studies," *3<sup>d</sup> European Conference on Computational Mechanics ECCM, Solids, Structures and Coupled Problems in Engineering*, Lisbon, Portugal, June 5-9.
192. Hiliuta, A., Botez, R., 2006, "New Technique for a Helicopter Flight Model Estimation based on Flight Test Data," *AIAA Paper 2006-3482, The 36<sup>th</sup> AIAA Fluid Dynamics Conference and Exhibit*, San Francisco, CA, USA, June 5-8.
193. Botez, R. M., Dinu, A., Cotoi, I., Stathopoulos, N., Dickinson, M., Terrien, S., Rathé, A., 2006, "Aeroservoelasticity Interactions Studies on a Business Aircraft," *47<sup>th</sup> AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Newport, Rhode Island, USA, May 1-4.
194. Botez, R. M., Dinu, A., Cotoi, I., 2006, "Approximations of Unsteady Aerodynamic Forces for Closed Loop Flutter Aeroservoelasticity Studies," *44<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit*, Reno, Nevada, USA, January 9-12.
195. Botez, R. M., Dinu, A., Cotoi, I., 2006, "Method based on Chebyshev Polynomial Theories for Aeroservoelastic Interaction Studies on an F/A-18 Aircraft," *International Association of Science and Technology for Development IASTED Modelling, Simulation and Optimization Conference*, Lanzarote, Spain, February 6-8.
196. Botez, R. M., Biskri, D.E., Terrien, S., Rathé, A., Stathopoulos, N., Dickinson, M., 2005, "Method based on the LS Approach used for Flutter Aeroservoelasticity Analysis Studies," *International Association of Science and Technology for Development IASTED Modelling, Simulation and Optimization Conference*, Oranjenstad, Aruba, August 29-31.
197. Botez, R. M., Biskri, D. E., Therien, S., Rathé, A., Stathopoulos, N., Dickinson, M., 2005, "New Mixed Method for Unsteady Aerodynamic Forces Approximations for Aeroservoelasticity Studies," *International Forum on Aeroelasticity and Structural Dynamics IFASD*, Munich, Germany, June 28-July 1.
198. Biskri, D. E., Botez, R. M., Therien, S., Rathé, A., Stathopoulos, N., Dickinson, M., 2005, "Mixed Method for Unsteady Aerodynamic Forces Approximations for Aeroservoelasticity Studies on Fly-by-Wire Aircraft," *Canadian Aeronautical Society Institute CASI Conference*, Toronto, Ontario, Canada, April 26-27.

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 1st of December 2016

199. Botez, R. M., Lefebvre, M., Brenner, M., 2005, "Reduced Frequency Range Selection for Unsteady Aerodynamic Forces in Aeroservoelasticity Studies on a Fly-by-Wire Aircraft," *Canadian Aeronautical Society Institute CASI Conference*, Toronto, Ontario, Canada, April 26-27.
200. Hiliuta, A., Botez, R.M., Brenner, M., 2005, "Approximation of Unsteady Aerodynamic Forces by use of a combination of Fuzzy Clustering and Shape Preserving Techniques," *20<sup>th</sup> Canadian Conference of Applied Mechanics CANCAM*, Montreal, Que., Canada, May 30-June 2.
201. Biskri, D. E., Botez, R. M., Therien, S., Rathé, A., Stathopoulos, N., Dickinson, M., 2005, "Corrected Least Squares Method for Aeroservoelasticity Studies," *20<sup>th</sup> Canadian Conference of Applied Mechanics CANCAM*, Montreal, Que., Canada, May 30-June 2.
202. Biskri, D. E., Botez, R., 2005, "Approximation of aerodynamic forces from frequency to Laplace domain," *30<sup>th</sup> Congress of the American Romanian Academy of Arts and Sciences ARA*, Chisinau, Moldavia, July 5-10.
203. Hiliuta, A., Botez, R. M., Brenner, M., 2005, "Approximation of Unsteady Aerodynamic Forces by use of Fuzzy Techniques," *47<sup>th</sup> AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics and Materials Conference*, Austin, Texas, USA, April 18-21.
204. Nadeau Beaulieu M., Popov A.V., Popescu R., Hiliuta, A., Botez R. M., Mureithi, N., 2005, "Methodology for Aerodynamic Model Generation for the B-427 Helicopter in Hover and Forward Flight by use of Flight Test Data," *11<sup>th</sup> Australian International Aerospace Congress AIAC*, Melbourne, Australia, March 13-17.
205. Crisan E. G., Botez R., Seto J., Lambert E., Hui K., Mureithi N., 2005, "Applications of Parameter Estimation Methods in Helicopter Identification," *11<sup>th</sup> Australian International Aerospace Congress AIAC*, Melbourne, Australia, March 13-17.
206. Nadeau Beaulieu M., Hiliuta A., Popov A.-V., Botez R. M., Mureithi, N., 2005, "New Formulation of the Ground Dynamics Model Generation and Validation by use of Flight Test Data," *11<sup>th</sup> Australian International Aerospace Congress AIAC*, Melbourne, Australia, March 13-17.
207. Hiliuta, A., Botez, R. M., 2005, "Approximation of Unsteady Aerodynamic Forces by use of Fuzzy Theory," *International Association of Science and Technology for Development IASTED Modeling, Identification and Control Conference*, Innsbruck, Austria, February 14-18.
208. Botez, R. M., Hiliuta, A., 2004, "Aerodynamic Forces Formulation for Aircraft Aeroservoelasticity Studies," *22<sup>nd</sup> Applied Aerodynamics Conference and Exhibit*, Providence, RI, USA, August 16-19.
209. Botez, R. M., Cotoi, I., Dinu, A., 2004, "Model Order Reduction for Aeroservoelasticity Studies by use of LRSRM and LRSM Algorithms," *24<sup>th</sup> International Council of the Aeronautical Sciences ICAS Conference*, Yokohama, Japan, August 30-September 3.
210. Botez, R.M., Ibrir, S., Biskri, D., Hamza, D., 2003, "Aerodynamic Forces Approximation for Aeroservoelastic Models," *The 44<sup>th</sup> AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference*, Norfolk, Virginia, USA, April 7-11.
211. Ibrir, S., Botez, R.M., 2003, "Robust Stabilization of Uncertain Aircraft Models," *The 44<sup>th</sup> AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference, Paper AIAA-2003-7530*, Norfolk, Virginia, US, April 7-11.



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212. Ibrir, S., Botez, R.M., 2003, "A New Approach to Aeroservoelastic Modelling," *The 44th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference*, Norfolk, VA, US, April 7-11.
213. Botez, R.M., Biskri, D., Cotoi, I., Hamza, D., Herda, M., 2003, "Unsteady Aerodynamic Forces Methods for Aeroservoelasticity Studies," *International Forum on Aeroelasticity and Structural Dynamics IFASD 2003*, Amsterdam, Neatherland, June 4-6.
214. Botez, R., Cotoi, I., Doin, A., Biskri, D., 2002, "Method Validation for Aeroservoelastic Analysis," *The 43rd AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference*, Denver, CO., USA, April 23 - 35.
215. Botez, R., Cotoi, I., 2002, "Method for Flutter Aeroservoelastic Open Loop Analysis," *The 5th ASME Symposium on Fluid-Structure Interactions, Aeroelasticity, Flow Induced Vibrations and Noise*, New Orleans, Louisiana, USA, November 17 – 22, pp. 547-558.
216. Aouf, N., Boulet, B., Botez, R., 2002, "A Gain Scheduling Approach for a Flexible Aircraft," *The American Control Conference ACC*, Alaska, USA, pp. 4439-4442.
217. Cotoi, I., Botez, R., 2002, "Use of the MS Flight Simulator in the Teaching of the Introduction to Avionics Course," *The ASEE Conference*, Paper 2002-1928, Aerospace Division, Montréal, Canada.
218. Cotoi, I., Botez, R.M., 2001, "Optimization of Unsteady Aerodynamic Forces for Aeroservoelastic Analysis," *The IASTED International Conference on Control and Applications CA2001*, Banff, Canada, pp. 105-108, June 27 - 29.
219. Bigras, P., Wong, T., Botez, R., 2001, "Pressure Tracking Control of a Double Restriction Pneumatic System," *The IASTED International Conference on Control and Applications CA2001*, Banff, Canada, pp. 273-278, June 27 - 29.
220. Botez, R.M., Parvu, P., Doin, A., 2001, "Aeroservoelastic Interactions on a Flexible Aircraft," *The CANCEM Conference*, St. John's, Canada, pp. 187-188, June 3 - 7.
221. Aouf, N., Boulet, B., Botez, R. M., 2001, "Model and Controller Reduction for Flexible Aircraft Preserving Robust Performance," *The American Control Conference ACC*, Arlington, VA, USA, Vol. 6, pp. 4758-4764, June 25 - 27.
222. Aouf, N., Boulet, B., Botez, R. M., 2000, "H2 and Hinf Optimal Gust Load Alleviation for a Flexible Aircraft," *The American Control Conference ACC*, Chicago, USA, Vol. 3, pp. 1872-1876, June 7-9.
223. Aouf, N., Boulet, B., Botez, R., 2000, "Robust Gust Load Alleviation for a Flexible Aircraft," *The 47th Annual CASI Conference*, Ottawa, Ont., Canada, pp. 95-104, 30 April - 3 May.
224. Bigras, P., Saad, M., O'Shea, J., Botez, R., 2000, "Inverse Flexible Manipulator Model Algorithm with Convergence Analysis," *The 31st International Symposium on Robotics ISR 2000*, Montréal, Canada, pp. 162-167, June 14 - 17.
225. Botez, R.M., Bigras, P., 1999, "Optimization of Generalized Aerodynamic Forces for the Aeroservoelasticity," *The 3rd International Conference on Engineering Aero-Hydroelasticity*, Prague, Czech Republic, pp. 122-128, 30 August – 3 September.
226. Botez, R.M., Boustani, I., Vayani, N., 1999, "Active Vibration Control for a Flexible Aircraft Equipped with Gust Load Control System," *The 6th International Congress on Sound and Vibration*, Copenhagen, Denmark, pp. 1731-1738, July 5 - 8.

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227. Botez, R.M., Bigras, P., 1999, "Aerodynamic Approximation of Unsteady Forces for the Aeroservoelasticity Study," *The 46th CASI Canadian Aeronautics and Space Institute Annual Conference*, Montréal, Canada, pp. 155-161, May 2 - 5.
228. Botez, R.M., Boustani, I., Vayani, N., 1999, "Optimal Control Laws for Gust Alleviation," *The 46th CASI Canadian Aeronautics and Space Institute Annual Conference*, Montréal, Canada, pp. 649-655, May 2 - 5.
229. Botez, R. M., 1998, "L'étude des Interactions Aéroservoélastiques sur un Avion à Commande Électrique," *66<sup>e</sup> Congrès de l'Association Francophone pour le savoir ACFAS*, Québec, Que., Canada, May 11 - 15.
230. Dumitrache, A., Botez, R.M., 1998, "On the Calculus of Heat Transfer in Forced Convective Boundary Layer," *The CSME Forum 1998 – Symposium on Thermal and Fluids Engineering*, Toronto, Ont., Canada, pp. 103-111, May 19 - 22.
231. Biskri, D., Botez, R.M., Petermann, B., Thibault, R., 1998, "Matrix<sub>x</sub> versus CAELIB," *Matrix<sub>x</sub> Users Meeting*, pp. 20-40, Dorval, Canada, 15 October.
232. Botez, R. M., 1997, "Three Routes to Chaos for One System of Articulated Cylinders Subjected to Annular Flow," *2<sup>nd</sup> Conference on Romanians and Romania in the Contemporary Science*, Brasov, Romania, May 27 - 31.
233. Botez, R.M., Païdoussis, M.P., 1994, "Nonlinear and Chaotic Dynamics of Articulated Cylinder in Confined Axial Flow," *5th Conference on Nonlinear vibrations, stability, and dynamics of structures and mechanics*, pp. 20-21, Blacksburg, US, June 12-16.
234. Païdoussis, M.P., Botez, R.M., 1993, "Quasi-Periodic and Period-Doubling Routes to Chaos for a Three Degree of Freedom Articulated Cylinder System Subjected to Confined Axial Flow," *1st European Nonlinear Oscillations Conference*, Hamburg, Germany, August 16-20, pp. 113.
235. Païdoussis, M.P., Botez, R.M., 1993, "Étude sur la dynamique et le chaos d'un système de cylindres rigides," *61st Conférence de l'ACFAS*, Rimouski, Qué., Canada, May 17-21, pp. 147.
236. Païdoussis, M.P., Botez, R.M., 1993, "Routes to Chaos for an Articulated System in Axial Flow," *15th Canadian Congress of Applied Mechanics CANCAM*, Kingston, Ont., Canada, Vol. 1, May 30 - June 4, pp. 257-258.
237. Païdoussis, M.P., Botez, R.M., 1992, "Nonlinear Dynamics of Articulated Cylinders Subjected to Confined Axial Flow," *4th Conference on Nonlinear Vibrations, Stability, and Dynamics of Structures and Mechanics*, Blacksburg, VA, USA, June 7 - 11.
238. Païdoussis, M.P., Botez, R.M., 1992, "Nonlinear Dynamics of Articulated Cylinders Subject to Confined Axial Flow," *1992 ASME International Symposium on Flow-Induced Vibrations and Noise*, Anaheim, CA., USA, July 10 - 15.
239. Botez, R.M., Marchand, O., Paraschivoiu, I., 1989, "Une étude comparative des modèles semi-empiriques de décrochage dynamique," *11ième Conférence Canadienne de Mécanique Appliquée CANCAM*, Ottawa, Ont., Canada, May 28 - June 2, pp. 586-587.
240. Botez, R.M., 1989, "Une étude comparative des modèles semi-empiriques pour la prédiction du décrochage dynamique," *AIAA Conférence Régionale Nord-Est des Étudiants*, Montréal, Qué., Canada, April 13-15, pp. 75-106.

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241. Botez, R.M., 1989, Comparaison des six modèles semi-empiriques de décrochage dynamique,” *Conférence de l’Académie Roumaine-Américaine*, Montréal, Qué., Canada, June 15-20, pp. 233-238.

#### **2.4 Articles published in Substance at ETS (<http://substance-en.etsmtl.ca>) for research vulgarization (in both English and French languages)**

1. Tchatchueng Kammegne, M. J., Grigorie, L. T., Botez, R. M., 2016, “Real-Time Testing of a Morphing Wing Model in a Wind Tunnel”.
2. Murrieta Mendoza, A., Botez, R., 2016, “Fuel Consumption Computation to optimize the Trajectory of Aircraft”.
3. Tchatchueng Kammegne, M. J., Grigorie, L. T., Botez, R. M., 2016, “Morphing Wing Design to reduce Airplane Fuel Consumption”.
4. Tchatchueng Kammegne, M. J., Grigorie, L. T., Botez, R. M., 2016, “Tests en temps réel d’un démonstrateur d’aile déformable en soufflerie”.
5. Murrieta Mendoza, A., Botez, R., 2016, “Calculer la consommation de carburant pour optimiser la trajectoire de vol”.
6. Murrieta Mendoza, A., Botez, R., 2016, “Dijkstra’s Algorithm to optimize Flight Trajectories”.
7. Tchatchueng Kammegne, M. J., Grigorie, L. T., Botez, R. M., 2016, “Une aile déformable d’avion pour réduire la consommation de carburant”.
8. Felix Patron, R. S., Botez, R., 2015, “How to Make Fuel-Efficient Trajectories to reduce Aircraft CO2 Emissions”.
9. Berrou, Y., Felix Patron, R.S., Botez, R., 2015, “How to optimize Aircraft Flight Path to Reduce their CO2 Emissions!”.
10. Felix Patron, R., Botez, R., 2015, “Comment réduire les émissions de CO2 des avions?”.
11. Murrieta Mendoza, A., Botez, R., 2014, “Reducing CO2 Emissions of Commercial Aircrafts”.

#### **2.5 Selected Master and PhD research theses and projects written by students under the supervision of Prof Botez since 2004**

1. Koreanschi, A., 2016, “Numerical and Experimental Validation of the Optimization Methodologies for a Wing-Tip Structure equipped with Conventional and Morphing Ailerons,” PhD thesis.
2. Tchatchueng, K., M. J., 2016, “Design, Development and Tests in Real Time of Control Methodologies for a Morphing Wing in Wind Tunnel,” PhD thesis.
3. Mohamed Sadok, 2016, “Morphing wing system integration with wind tunnel testing,” Master in Engineering thesis.

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4. Vincent, Jean-Baptiste, 2015, "Aile adaptable : design du système d'actionnement de l'aileron rigide, caractérisation des capteurs de pression et instrumentation pour des tests statiques," Master in Engineering thesis.
5. Sugar Gabor, Oliviu, 2015, Validation of morphing wing methodologies on an unmanned aerial system and a wind tunnel technology demonstrator," PhD Thesis.
6. Communier, David, 2015, "Méthodologie de modélisation aérostructurale d'une aile utilisant un logiciel de calcul aérodynamique et un logiciel de calcul par éléments finis," Master in Engineering thesis.
7. Flores Salinas, Manuel, 2015, "Méthodologies nouvelles pour la réalisation d'essais dans la soufflerie Price-Paidoussis," Master in Engineering thesis.
8. Leuca, Maxim, 2015, "Développement et implémentation d'une méthode pour résoudre les équations de la couche limite laminaire et turbulente," Master in Engineering thesis.
9. Chahbani, Samia, 2015, "Estimation des masses, des centres de gravité ainsi que des moments d'inertie de l'Avion Cessna Citation X," Master in Engineering thesis.
10. Sidibé, Souleymane, 2014, "Optimisation of Trajectories for a Flight Management System for the Cost Reduction," Master in Engineering thesis.
11. Félix Patrón, Robert Salvador, 2014, "Optimization of the vertical flight profile on the flight management system for green aircraft," PhD thesis.
12. Hamel, Clément, 2014, "Identification d'un modèle global linéarisé de la dynamique de vol du Cessna Citation X à partir d'essais en vol," Master in Engineering thesis.
13. Ghazi, Georges, 2014, "Development of a Simulation Platform and an Automatic Pilot for the Business Aircraft," Master in Engineering thesis.
14. Murrieta Mendoza, Alejandro, 2013, "Vertical and Lateral Flight Optimization Algorithm and Missed Approach Cost Calculation," Master in Engineering thesis.
15. Anton, Nicoleta, 2013, "Theoretical and Numerical Methods used as Design Tool for an aircraft: application on three real world configurations," PhD thesis.
16. Brossard, Jeremy, 2013, "New Methods of Closed Loop Control on a Morphing Wing," Master in Engineering Thesis.
17. Dancila, Radu, 2013, "Optimization Algorithm of a Vertical Profile for a Cruise Segment with a Time Arrival Constraint," Master in Engineering thesis.
18. Saafi, Kais, 2012, "Improvement of Flaps Implementation in a Flight Dynamics Model for an Aircraft," Master in Aerospace Engineering thesis.
19. Dancila, Bogdan Dumitru, 2012, "Altitude Optimization Algorithm for Cruise, Constant Speed and Level Flight Segments," Master in Engineering thesis.
20. Gagne, Jocelyn, 2012, "New Method of Cost Optimisation by use of an FMS and its Validation on the Lockheed L-1011 TRISTAR," Master in Engineering thesis.
21. Pollender Moreau, Olivier, 2011, Practical Method between a Conceptual Aerodynamical Technique and a Simulation Platform of an Automatic Pilot with Optimal Control for the Flight Enveloppe of a Business Aircraft," Master in Aerospace Engineering thesis.
22. Brisemeur, Romain. 2011, "Application of Genetical Algorithms in the Management of Aerial Conflicts in the Cruise Regime," Master in Engineering thesis.
23. Boëly, Nicolas, 2011, "Nonlinear Modeling and Linear Feedback Input – Output Control Linearized of an Underwater Unmanned Vehicle," Master in Engineering thesis.

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24. Fays, Julien, 2011, "Trajectory Creation and Following in 4 D with No-Fly Zones Self-Management and Calculation of Outputs with Pilot Aids," Master in Engineering thesis.
25. Kouba, Gabriel, 2011, "Trajectories Calculations with Genetic Algorithms on Three Dimensions for an Aircraft in Six Dimensions," Master in Engineering thesis.
26. Popov, Andrei Vladimir, 2010, "Design of an Active Controller for Delaying the Transition from Laminar to Turbulent Flow over a Morphing Wing in a Wind Tunnel," PhD thesis.
27. Popescu, Dumitru, 2010, "New Implementation of Datcom Procedure for Aerodynamic Coefficients Calculations and Stability Derivatives in the Flight Subsonic Regime," Master in Engineering thesis.
28. Horhoge, Adrian, 2009, "Control System Studies," Master in Engineering thesis.
29. Couffignal, Marion, 2009, "Control of an Unmanned Underwater Vehicle," Master in Aerospace Engineering project.
30. Birla, Laurentiu, 2008, "Calculation of Aerodynamic Coefficients on a Flexible Wing Using Fluent and XFOIL Codes," Master in Engineering thesis.
31. De Jesus Mota, Sandrine, 2008, "Identification and Validation of a Model of the Bell-427 Helicopter from Flight Test Data with a Time Domain Method," Master in Engineering thesis.
32. Labib, Michel, 2008, "Active Flow Control on an Aeroelastic Wing," Master in Engineering thesis.
33. Alstrom, Bruce, 2008, "Equations of Motion of an Unmanned Underwater Vehicle," Master in Aerospace Engineering project.
34. Attal, Pierre, 2008, "Open Loop Control of a Morphing Wing Equipped with Smart Actuators and Pressure Sensors," Master in Aerospace Engineering project.
35. Boughari, Yamina, 2008, "Modelling of an Unmanned Underwater Vehicle," Master in Aerospace Engineering project.
36. Mamert, Arsene, 2006, "Loads Optimizations on a Wing," Master in Aerospace Engineering project.
37. Mathieu, Bertrand, 2006, "Improvement of the CL-300 Ventilation System," Master in Aerospace Engineering project.
38. Zhenhua, Li, 2006, "Studies of Aeroservoelastic Interactions between Rigid, Control and Elastic modes of an Aircraft," Master in Aerospace Engineering project.
39. Khelifi, A., 2005, "Proof of Match Methodologies for Bell-427 Helicopter Model Estimation," Master in Aerospace Engineering project.
40. Merouani, Tarek, 2005, "Bell-427 Helicopter Model Estimation," Master in Aerospace Engineering project.
41. Nadeau Beaulieu, Michel, 2007. "Formulation of Mathematical Models using Parameter Estimation Techniques and Flight Test Data for the Bell-427 Helicopter and the F/A-18 Active Aeroelastic Wing Research Aircraft," PhD thesis, ÉTS.
42. Biskri, Djallel Eddine, 2007, "Aerodynamic Force Approximation Methods for the Aeroservoelastic Interactions Studies," PhD thesis, ÉTS.
43. Rotaru, Mihai, 2006, "Flying Qualities of an F/A-18 Aircraft," Master in Engineering thesis, ÉTS.

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44. Dinu, Alin Dorian, 2006, "New methods for Aeroservoelastic Interaction Studies in Open Loop on F/A-18, CL-608, ATM (Aircraft Test Model) and in Closed Loop on the ATM," PhD thesis, ÉTS.
45. Ciocan, Laurentiu, 2006, "Validation of a Method for Aeroservoelastic Interaction Studies of Rigid, Control and Elastic Modes on an F/A-18 Aircraft," Master in Engineering thesis, ÉTS.
46. Jalali, Mohsen, 2005, "Load Calculations on an Aircraft Wing," Master in Engineering thesis, ÉTS.
47. Popov, Andrei Vladimir, 2005, "Proof of Match Technique for Bell 427 Helicopter Level D Simulator," Master in Engineering thesis, ÉTS.
48. Benea, Claudiu, 2005, "Method of Aerodynamic Forces Analysis for Aeroservoelastic Interaction Studies on F/A-18," Master in Engineering thesis, ÉTS.
49. Lefebvre, Martin, 2005, "Method of Analysis of Aerodynamic Forces for Aeroservoelastic Interaction Studies on F/A-18 and CL-604 Aircraft," Master in Engineering thesis, ÉTS.
50. Bunduc, Lidia, 2005, "Aerodynamic Forces Calculations in the Laplace Domain for the F/A-18 Aircraft," Master in Engineering thesis, ÉTS.
51. Crisan, Emil Gabriel, 2005, "Validation of a Mathematical Model for the Bell-427 Helicopter Using Parameter Estimation Techniques and Flight Test Data," Master in Engineering thesis, ÉTS.
52. Herda, M., 2005, "Conversion of Aerodynamic Forces from Frequency to Laplace Domain," Master in Engineering thesis, ÉTS.
53. Popa, Ghiocel, 2004, "Studies of Aeroservoelastic Interactions for the Dynamics of Whole Aircraft Test Model ATM (Longitudinal and Lateral) in STARS," Master in Engineering thesis, ÉTS.
54. Karnib, Yasser, 2004, "Stability Derivatives Calculations for Aeroservoelastic Interactions Studies," Master in Engineering thesis, ÉTS.
55. Hamza, Dina, 2003, "Simulation de la conversion des forces aérodynamiques pour l'avion à commande électrique Fly-By-Wire," Master in Engineering thesis, ÉTS.

## 2.6 Course and Seminar Notes at ETS

- *Introduction à l'avionique*, 2007.
- *Contrôle des avions*, 2006.
- *Résistance des matériaux*, 2005.

## 2.7 Editorial activities

- Editor-in-chief, "National Institute for Aerospace Research Elie Carafoli INCAS Bulletin". (since 2013)
- Section Editor, "Morphing Wing Technology", Section 3: Systems Design (Elsevier Publication), Book Chapter (since 2014)

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- Editorial Board Member, “Chinese Journal of Aeronautics” (Elsevier Publication), (2013-2015)
- Editorial Board Member, “National Institute for Aerospace Research Elie Carafoli INCAS Bulletin” (2009-2013)
- Editorial Board Member, “CSME Transactions” (1999-2008)

## 2.8 Invited, Keynote and Plenary Speaker at various Events

- Plenary Green Transportation Session Speaker, 2016, *New Methodologies for Green Aircraft Flight Trajectories Optimization*, ESTACA’s International Week, Paris, France, November 14-16.
- Invited Speaker, 2016, *Innovative Wing Tip Equipped with Morphing Upper Surface and Morphing Aileron*, Greener Aviation 2016, Brussels, Belgium, October 11-13.
- Invited Keynote Speaker, 2016, *Finite Elements Methods Utilization in Morphing Wing Tip Technologies*, Aerospace Engineering Analysis & Simulation: NAFEMS Event, Montreal, Que., Canada, Oct. 4<sup>th</sup>.
- Invited Keynote Speaker, 2016, *New Methodologies for Missed Approach Computing in terms of Fuel Consumption and Emissions for a Boeing B-737-400*, International Conference of Aerospace Sciences “AEROSPATIAL 2016”, Bucharest, Romania, October 26-27.
- Plenary Speaker at the Round Table, 2016, Academic Forum at the 40<sup>th</sup> American Romanian Academy of Arts and Sciences ARA, Montreal, Que., Canada, July 28-31.
- Keynote Speaker, 2016, *Advances in Aircraft Modeling and Simulation Methodologies*, The 40<sup>th</sup> American Romanian Academy of Arts and Sciences ARA, Montreal, Que., Canada, July 28-31.
- Invited Speaker, 2016, *Aircraft Computational and Experimental Advanced Methodologies*, 10<sup>th</sup> International Conference on Advanced Computational Engineering and Experimenting ACEX2016, Split, Croatia, July 3-6.
- Esterline CMC Electronics Keynote Speaker, 2016, *Modeling and Simulation for Environmentally Better Aircraft*, 30<sup>th</sup> of May.
- Keynote Speaker, 2016, *Multidisciplinary Modelling, Simulation and Experimental Methods applied to Aerodynamics, Materials, and Active Controls Issues*, The 6<sup>th</sup> International Conference & Workshop REMOO-2016, Budva, Montenegro, 18-20 May.
- Keynote Speaker, 2016, *Methodologies for Identification of an Aero-Propulsive Engine Model from Flight Tests*, 4<sup>th</sup> International Workshop on Numerical Modelling in Aerospace Sciences, NMAS 2016, 11-12 May.
- Invited Speaker, 2016, *Modeling, Simulation and Wind Tunnel Testing of Aircraft Trajectory Optimization and Morphing Wing Aircraft*, NASA Ames Research Center.
- Plenary Speaker, 2015, *UAV Sustainability*, Canadian Aeronautical Space Institute ASI AD&D Conference, Montreal, Que., Canada, 2015.

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- Keynote Speaker, 2015, 2nd International Workshop on Numerical Modeling in Aerospace Sciences "NMAAS 2015" *Level D Research Aircraft Flight Simulator use for Novel Methodologies in Aircraft Modeling and Simulation*, 2015.
- Keynote Speaker, 2014, International Conference of Aerospace Institute for Aerospace Research Elie Carafoli INCAS "AEROSPATIAL 2014": *Increase of Aerodynamic Performance of a Wing-Tip Design*, 2014.
- Keynote Speaker, 2013, International Conference of Aerospace Institute for Aerospace Research Elie Carafoli INCAS "AEROSPATIAL 2013": *Techniques of Trajectories Optimisation*.
- Invited Speaker, 2012, University of Clarkson, Mechanical and Aeronautical Engineering Department, *Research performed at the Laboratory of Applied Research in Active Controls, Avionics and AeroServoElasticity*.
- Keynote Speaker, International Conference of Aerospace Institute for Aerospace Research Elie Carafoli INCAS "AEROSPATIAL 2012": *Morphing Wing Laminar Flow Improvement*, 2012.
- Plenary Speaker, 2014, "Woman Leadership" Workshop at the CSME International Congress, June 1<sup>st</sup>.
- Guest Speaker and Animator invited to the Aerospace Innovation Forum in the Avionics session, 2008.

## 2.9 Invited Talk Paper in the AIAA Invited AeroServoElasticity Sessions

- Grigorie, T. L., Popov, A. V., Botez, R. M., 2014, *Control Strategies for an Experimental Morphing Wing Model*, AeroServoElasticity Session at the AIAA's Aviation 2014, Atlanta, GA, USA, June 16-20.
- Grigorie, L.T., Popov, A. V., Botez, R. M., 2013, *Control of Actuation System based Smart Material Actuators in a Morphing Wing Experimental Model*, AeroServoElasticity Session at the AIAA Atmospheric Flight Mechanics (AFM) Conference, Boston, MA, USA, August 19-22.
- Grigorie, L.T., Botez, R. M., Popov, A.V., 2012, *Design and Experimental Validation of a Control System for a Morphing Wing*, AeroServoElasticity Session at the AIAA Atmospheric Flight Mechanics Conference, Minneapolis, MN, USA, August 13-16.
- Silisteanu, P.D., Botez, R. M., 2012, *Two-Dimensional Airfoil Shape Optimization for Airfoils at Low Speeds*, AeroServoElasticity Session at the AIAA Atmospheric Flight Mechanics Conference, Minneapolis, MN, USA, August 13-16.
- Grigorie, L.T., Popov, A.V., Botez, R. M., Mamou, M., Mébarki, Y., 2011, *Controller and Aeroelasticity Analysis for a Morphing Wing*, Aircraft Aeroservoelastic Control, Modeling, Simulation and Optimization Session at the AIAA Atmospheric Flight Mechanics Conference, Portland, OR, USA, August 8-11.

## 2.10 Session Chair and Chair at various conferences

- Session Chair at the American Institute of Aeronautics and Astronautics AIAA conferences in the Adaptive Structure Sessions 2012, 2013, 2014, 2015



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- Session Chair at the NATO conference, in the "Applied Vehicle Technology AVT-168 Panel on Morphing Vehicles", 2009.
- Session Chair at the "Canadian Aeronautics and Space Institute CASI" in 2007 and 2009, 2011, 2013, 2013.
- Session Chair at the "International Association of Science and Technology (IASTED)" in 2015: Modeling, Identification and Control (MIC), 2014: Modeling, Identification and Control (MIC), 2009: Identification, Control and Applications (ICA), twice in 2007: Applied Simulation and Modelling (ASM) and Modelling, Identification and Control (MIC), twice in 2006: ASM and Modelling, Simulation and Optimization (MSO), and in 2005 (MIC)
- Session Chair at the "7<sup>th</sup> World Congress on Structural and Multidisciplinary Optimization" conference in 2007
- Session Chair at the International Symposium on Industrial Electronics in 2006.
- Session Chair for the Engineering Section of the Romanian American Academy ARA, and Member of the Organizing Committee since 2001. This participation has ensured contacts and collaboration with Romanian professors in engineering throughout the world and has facilitated graduate student recruitment.
- Member of the Organizing Technical Committee of the CASI Aircraft Design and Development (AD&D) Symposium since 2006, which gives her considerable visibility among Canadian aeronautical companies.
- Technical Chair elected in 2009 for the CASI AD&D Symposium that has been held in 2011, 2013, and 2015.
- As Director-at-Large of the American Helicopter Society (AHS) International, The Vertical Flight Society, Montreal-Ottawa Section (<http://www.vtol.org/chapters.html>), Dr. Botez participated mainly in the organization of conferences in Montreal, thereby ensuring visibility for LARCASE-ÉTS students in activities organized by the local AHS (2006-2014).

## **2.11 Member of Committees**

- Member of the "White Rose Order of Ecole Polytechnique" Selection Committee, 2015
- Member of the "Tri-Agency TC3 Data Management Policy" Advisory Committee organized by The Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council, and the Canadian Institutes of Health Research, 2015
- Member of the "Women in Aerospace" Committee in Montreal. Participation at the "Women in Aerospace" speed-mentoring event at ÉTS, 2015
- Member of the "Organisation Committee on the UAVs" for the SAE International Conference in 2013, 2014, 2015
- Member of the "AIAA Adaptive Structures Committee" since 2009.
- Member of the "Scientific Advisory Committee" of the 2010 International Multi-Disciplinary Conference on Systems, Sensors, Devices, and Information Technology (S2DIT), July 11-14, Bucharest, Romania.

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- Member of the "YWCA Jury" for the "Women of Distinction Gala", 2009.
- Member of the "Selection Jury" for the "Student Aerospace Forum (SAF)" competition in 2009.
- Member of the "American Romanian Academy (ARA) of Arts and Sciences" Executive Committee, as Canadian Branch representative and organizer (2001-2009), <http://gw-chimie.math.unibuc.ro/anunivch/2002-2/AUBCh2002XI2ScientificEvents.pdf>.
- Member of the Technical Committee for Symposium organization and Technical Chair for AVT-168 – Morphing Vehicles (see also <http://www.rta.nato.int/CFP/AVT-168-2990.pdf>), since 2007.
- Member of the Working Group for AVT-161 – Assessment of Stability and Control Prediction Methods for NATO Air & Sea Vehicles, since 2007.

### **3. LEADERSHIP IN VARIOUS RESEARCH PROJECTS**

Dr. Botez's leadership can be seen in the success of research projects jointly conducted with NASA DFRC, USA; Bombardier Aerospace; Thales Canada; Bell Helicopter Textron, CMC Electronics-Esterline; DLR, Germany, US Air Force Academy and 50 other NATO participants; Hydra Technologies in Mexico; Alenia and University of Naples in Italy; CAE Inc.

#### **3.1 Canada Research Chair in Technologies for Aircraft Modeling and Simulation (2011-2018)**

The Chair's activities started on 1st of January 2011, and revolve around two main research axes: (1) aircraft and helicopter flight dynamics and control; and (2) active control technologies for morphing aircraft. In the first axis, new modeling and simulation methodologies for aircraft and helicopter flight dynamics and control will be designed. Using flight test data, non-linear optimization algorithms will be developed to identify and validate aircraft and helicopters models. In the second axis, the LARCASE team will use geometric data to analyze aircraft stability. The shape of wings and other geometric surfaces of autonomous aerial systems will be modified using active control systems, to enhance the aerodynamic performance of aircraft.

The subsonic blown down wind tunnel Price-Paidoussis, the Research Aircraft Flight Simulator from CAE Inc. equipped with the Flight Dynamics Highest Level D of Certification for Cessna Citation X (the fastest today business aircraft), and the Unmanned Aerial System UAS-S4 designed and manufactured by Hydra Technologies will be used in axes 1 and 2 of the Canada Research Chair. The research performed using this infrastructure is detailed in Sections 3.2, 3.3 and 3.4.

#### **3.2 Research projects performed in the subsonic wind tunnel Price-Paidoussis (since 2010)**

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Professor Michael Païdoussis has donated in 2010 the large blow-down subsonic wind tunnel located at McGill University in the Mechanical Engineering Department, designed by Professor Stuart Price and himself to Dr. Botez at the ÉTS to be used in the LARCASE laboratory. Professor Païdoussis is well known in the area of fluid-structure interactions and he is the Thomas Workman Emeritus professor, while Professor Price is well known in the area of aeroelasticity. This donation is valued at more than half a million dollars, is one of Dr. Botez's greatest achievements, and also to open new collaborations on various projects at academic and industrial levels. The wind tunnel is used for testing of aerodynamics and controls of reduced scale morphing wings and other aircraft components, calibration new technologies. Radars resistance to the winds was tested in a research project taking place in collaboration with FLIR Systems Inc.

### **3.3 Research projects performed in collaboration with CAE Inc., and also using the Research Aircraft Flight Simulator RAFS (since 1998)**

Dr. Botez worked as a project leader on an initial project with CAE Inc. in 1998 on the Matrix<sub>x</sub> code applications in CAE operations. CAE Inc. is the well-known Canadian company in aircraft modeling and simulation.

Later, between 2003 and 2006, Dr Botez has worked on a second project in collaboration with CAE Inc. on the Hawker 800 XP stability analysis.

In 2012, the Presagis Award for the *Best Simulation Model* has been won by Dr Botez team at the LARCASE laboratory for the modeling and simulation of the Hawker 800 XP business aircraft – this research was realized in collaboration with CAE Inc.

In May 2009, Dr. Botez, as project leader, successfully obtained important infrastructure equipment from CAE Inc., funded by the Canadian Foundation of Innovation (CFI), the Ministère du Développement Économique, Innovation et Exportation MDEIE and CAE Inc., called the Research Aircraft Flight Simulator (RAFS).

This equipment, valued at \$450,000, has an open source code for the flight dynamics of the Cessna Citation X business aircraft; the flight dynamics has the highest Level D FAA certification, and for this reason, this simulator is extremely helpful in the advancement of aircraft modelling and simulation.

LARCASE is the only aerospace academic laboratory to presently have this type of research opportunity. This simulator will be extremely helpful in the advancement of aircraft modelling and simulation.

### **3.4 Research on Unmanned Aerial System UAS-S4 in modeling and simulation, and also on aerodynamics, structural and controls in collaboration with Hydra Technologies, Mexico (since 2011)**

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Research is developed on the UAS-S4 in both axes of the Canada Research Chair on the morphing wing design, and on the design of a flight simulator based on the flight test data of the UAS-S4. The research involves MDO knowledge in aerodynamics, structure and controls and is developed on the UAS-S4 in collaboration with Hydra Technologies in Mexico. The UAS-S4 was obtained with research funds from Canadian Foundation for Innovation CFI, Ministère du Développement Économique, Innovation et Exportation MDEIE and Hydra Technologies.

### **3.5 Collaboration with CMC Electronics-Esterline (2009-2018)**

One of the Business-Led Network of Centres of Excellence (BL-NCE), called the *Green Aviation Research and Development Network (GARDN)*, was founded in 2009 by researchers from three aerospace companies: Bombardier Aerospace, Pratt & Whitney Canada and CMC Electronics, a subsidiary of Esterline Corp (USA), and eight universities. GARDN has an initial budget of approximately \$23 million over the four-year period 2009-2013 for nine research projects (<http://www.gardn.org/>). The Network's mission is threefold: to design new technologies for green aircraft, to reduce fuel consumption, to reduce the amount of emissions and noise, and to improve aircraft life-cycles, engines and controls.

Dr. Botez was the academic leader for one of these nine projects in the GARDN I round projects. In this capacity, she worked and continues working in collaboration with CMC Electronics, which is well-known internationally in the aerospace field. New methodologies for aircraft trajectory optimizations were designed, implemented and tested on Flight Management Systems (FMS). Tests were conducted on real flight simulators for the Airbus A-300, the RRJ and the Lockheed L-1011, as well as in real time flights to validate the new methodologies designed in this project. This project was funded with 1.4 mil \$ during 2009-2013, then has been further renewed for 4 years period (budget of 1.2 million) during 2014-2018 in the frame of the GARDN II BL-NCE program.

### **3.6 International collaboration with Alenia, Federico II University and CIRA in Italy, with Thales in France and Canada, and with IAR-NRC and Bombardier Aerospace in Canada (2012-2016)**

Dr Botez was the academic leader of an international project that represented the continuation of the project mentioned in section 3.7, has a higher TRL, as the aim of this project is to modify and improve the wing tip of an existing Bombardier type aircraft. This project was funded by the NSERC, CRIAQ, and by the Canadian and Italian aerospace companies and research institutes Bombardier, IAR-NRC, Thales, CIRA and Alenia, respectively. The total cost of this research project that was carried out in collaboration with the Italian teams is of approximately \$3 million.

In this project, the shape of an existing Bombardier aircraft-type wing with ailerons is modified through morphing. The wing and aileron assembly design is validated using wind tunnel testing in the IAR-NRC wind tunnel.

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Frederico II University was founded in 1224. It has 13 faculties, is the world's oldest university and is one of the oldest academic institutions in continuous operation. Alenia Aeronautica was created in 1990 by combining Finmeccanica Aerospace and the defence industries Aeritalia and Selenia. The Italian Aerospace Research Centre (Centro Italiano Ricerche Aerospaziali – CIRA) is a consortium established in July 1984 to promote the development and success of the aerospace industry in Italy. Most of CIRA's share capital is held by government organizations: the Italian Space Agency (ASI) and the National Research Council of Italy (Consiglio Nazionale delle Ricerche – CNR).

### **3.7 Collaboration project with Thales Canada and Bombardier Aerospace (2006-2009)**

From 2006 to 2009, Dr. Botez was the academic leader of a multidisciplinary project, called *Laminar Morphing Wing Research*, funded by the Consortium for Research and Innovation in Aerospace in Quebec (CRIAQ), the Natural Sciences and Engineering Research Council (NSERC), Bombardier, Thales and the Institute for Aerospace Research – National Research Council (IAR-NRC).

Due to the multidisciplinary nature of this project, a synergy was created between the academic team of Dr Botez's Laboratory of Applied Research in Active Controls, Avionics and Aeroservoelasticity, and two other academic laboratory teams: the *Laboratoire sur les alliages à mémoire et systèmes intelligents* (LAMSI) at the ÉTS, and the Bombardier Chair at the École Polytechnique, and their academic leaders.

These three academic teams have collaborated with the Institute of Aerospace Research-National Research Council (IAR-NRC) team, as well as with the industrial partners from the two aerospace companies, Bombardier Aerospace and Thales Canada. This project, involving the continuous collaboration of six active partners (three academic, two industrial and one research institute), received one of the highest second-round CRIAQ research grants, with a total of \$1.544 million ([www.criaq.aero](http://www.criaq.aero)), of which \$630,000 was obtained from Bombardier Aerospace and Thales, \$600,000 from the NSERC and \$315,000 from CRIAQ.

The team working directly under Dr. Botez leadership at her LARCASE laboratory conceived and finalized a new flow transition controller methodology on a wing equipped with Kulite pressure sensors and Shape Memory Alloy actuators, and validated it numerically and experimentally in the IAR-NRC Wind Tunnel.

### **3.8 NATO-sponsored international collaboration (2008-2012)**

NATO has funded an international research project with approximately 50 participants. In this project, Dr. Botez was responsible for performing the stability and control derivative calculations for the X-31 aircraft from its geometrical data and its wind tunnel test data. The wind tunnel operation and acquisition test data costs in this project were of the order of 2 million Euros. A NATO award called the "RTO Scientific Achievement Award 2012" has been won by the NATO team, including the team of Dr Botez, that has worked on this project.

### **3.9 Collaboration with Bell Helicopter Textron (2003-2006)**

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The leadership of Dr Botez has also been demonstrated in one of the most generously funded first-round CRIAQ projects, carried out from 2003 to 2006. Total funding amounted to \$1.310 million, of which \$882,000 was obtained from Bell Helicopter Textron and \$578,000 from CRIAQ. In this project, the conception of the highest Level D FAA certified flight simulator model for the Bell-427 helicopter was realized and validated using all available flight test data, in collaboration with the Bell Helicopter team and IAR-NRC team.

Based in Fort Worth, Texas, USA, Bell Helicopter Textron produces helicopters and tilt-rotors. The company's other divisions are located in Amarillo, Texas (military helicopter and tilt-rotor products) and in Mirabel, Quebec, Canada (commercial helicopters).

### **3.10 Collaborative projects with Bombardier Aerospace and with NASA DFRC in the USA (1995-2012)**

Dr. Botez started working at Bombardier Aerospace in the specific area of aeroservoelasticity interactions as a Task Leader Engineer in 1995, in two departments: Loads and Dynamics, on the Active Control Technology research project for Fly-by-Wire aircraft. The global team for this project was formed of different engineers working in aircraft design, modeling and simulation departments: Flight Dynamics, Stability and Control, Systems Engineering, Loads and Dynamics.

Her task was to analyze the aeroservoelastic interactions that could occur on a new Active Control Technology aircraft, and this analysis could only be performed by an integration of the research methodologies and the results from these departments. Bombardier Aerospace is the third largest aircraft company in the world in terms of annual commercial airplane deliveries, and the fourth largest in terms of annual regional jet deliveries.

Since 1998, Dr. Botez has continued aeroservoelasticity research at ÉTS, in collaboration with researchers at NASA Dryden Flight Research Center (DFRC) laboratories, on three projects, such as the F/A-18 Systems Research Aircraft (SRA), the Aerostructures Test Wing (ATW) and the F/A-18 Active Aeroelastic Wing (AAW).

This international aeroservoelasticity research with NASA DFRC was funded at the academic level by three governmental institutions: the Natural Sciences and Engineering Research Council (NSERC), the Fonds de recherche sur la nature et les technologies (FQRNT), and the Ministère du Développement économique, de l'innovation et d'exportation (MDEIE).

Subsequently, under her academic leadership, a multidisciplinary aeroservoelasticity project entitled *Time domain aerodynamic force approximations for the CL-604 aircraft* successfully conceived and validated various new methodologies for aerodynamic force time domain calculations on Bombardier aircraft: the CL-604 and the CF-18. The project was funded by Bombardier Aerospace and NSERC from 2004 to 2007. The Bombardier team successfully validated the new methodologies and the results obtained in this project, using wind tunnel testing.

#### **3.1.11 International collaboration with the US Naval Research Laboratory**

In another international research project in collaboration with the US Naval Research Laboratory, Dr. Botez was the project leader from the US on the modelling and simulation of an unmanned underwater vehicle (UUV). The US Naval Research Laboratory (NRL) is the

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corporate research laboratory for the Navy and the Marine Corps, and conducts a broad program of scientific research, technology and advanced development to meet world challenges.

This UUV has two contra-rotating propellers which serve to stabilize its forward speed and roll angle. The hydrodynamic stability coefficients were determined, and several new control strategies have been implemented, based on pole and eigenstructure placements for linear control, and on neural network and fuzzy logic methods for non-linear control. A Kalman filter optimal control allowed increased accuracy of the control laws.

#### **4. Recognitions for Dr Botez and her team**

##### **4.1 Awards and distinctions obtained by Dr Botez and her team**

- *Venezia award* offered by the Italian Chamber of Commerce for the leadership of Dr Botez in the CRIAQ MDO-505 project, 2015.
- *Second award* for the CRIAQ MDO 505 on-going project in April 2014 – collaborative project with Bombardier, Thales, Ecole Polytechnique, NRC-IAR, Alenia, CIRA, University of Naples
- *Short list* of the best 14 presentations and papers at the *Award selection at the Greener Aviation Clean Sky breakthroughs and worldwide status conference* in Brussels, Europe, 12-14<sup>th</sup> of March, 2014.
- *Presagis award* for the *Best Simulation Model* at ETS, LARCASE, 15<sup>th</sup> of November 2012.
- Third award for the completed CRIAQ 7.1 project obtained with the occasion of the 10th Anniversary of CRIAQ, on 16th of March 2012 - given to the team working on the CRIAQ 7.1 project formed by professors Ruxandra Botez, Vladimir Brailovski & Patrick Terriault (LAMSI-ETS), Ion Paraschivoiu (Ecole Polytechnique) and their students, Dr Mahmood Mamou and his team at the IAR-CNRC, the industrial leaders: Mr Philippe Molaret from Thales Canada, Dr Eric Laurendeau and Dr Fassi Kafyeke from Bombardier Aerospace.
- The "RTO Scientific Achievement Award 2012" -the most prestigious award offered to the research team AVT-161 of NATO. Dr Ruxandra Botez is the representant of this section for Canada.
- Certificate of Excellence to CRIAQ Pioneers, 2007.
- Award of Excellence for her exceptional researcher qualities, industrial achievements, and the graduation of a high number of Master's and PhD students, ÉTS, 2007.
- Finalist in the 2006 Women of Distinction Gala in the Education Category presented by the National Bank and organized by the YWCA Foundation.

##### **4.2 Awards won at the Students Aerospace Forum (SAF) in Quebec universities, at the Discovery Day at ETS, at the CRIAQ Forum, and at the 40<sup>th</sup> ARA Congress by the LARCASE team working on research projects under Dr. Botez' supervision**

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- *Poster Award in Aircraft Modeling (1<sup>st</sup> Award)*, Title of the poster: “*Development of Aircraft Database in Cruise Flight using Equations of Motion*” obtained by Miss Alina Turculet (Master Student), Georges Ghazi (PhD Student), Dr Ruxandra Botez, *The 40th American Romanian Academy of Arts and Science ARA Congress, Montreal, Canada, July 28-31, 2016.*
- *Poster Award in Unmanned Aerial Vehicle (UAV) - 1*, Title of the poster: “*Wing Geometry Optimization for the UAS-S4 Ehecattl with the aim of Aerodynamics Performance Improvement*” obtained by Mr Guillaume Tatrie (Internship Student), Maximilien Hawawini (Internship Student), Dr Ruxandra Botez, *The 40th American Romanian Academy of Arts and Science ARA Congress, Montreal, Canada, July 28-31, 2016.*
- *Poster Award in Navigation Modeling*, Title of the poster: “*Aircraft Trajectory Optimization to reduce Fuel Consumption in Cruise*” obtained by Mr Charles Romain (Internship Student), Alejandro Murrieta Mendoza (PhD Student), Dr Ruxandra Mihaela Botez, *The 40th American Romanian Academy of Arts and Science ARA Congress, Montreal, Canada, July 28-31, 2016.*
- *Poster Award in Unmanned Aerial Vehicle (UAV) - 2*, Title of the poster: “*Estimation of the Flight Dynamics of the UAS-S4 through its Geometry Characteristics*” obtained by Mr Maxime Kuitche (PhD Student), Marine Segui (Internship Student), Anais Kerroux (Internship Student), Dr Ruxandra Botez, *The 40th American Romanian Academy of Arts and Science ARA Congress, Montreal, Canada, July 28-31, 2016.*
- *Young Scientist Poster Award*, Title of the poster: “*Morphing Architectures and Related Technologies for Wing Efficiency Improvement*” obtained by the CRIAQ MDO 505 Team and presented by Mr Manuel Flores Salinas (PhD Student), *The 40th American Romanian Academy of Arts and Science ARA Congress, Montreal, Canada, July 28-31, 2016.*
- *Young Scientist Poster Award - Wind Tunnel*, Title of the poster: “*Numerical Modelling and Testing at the Price-Paidoussis Subsonic Wind Tunnel of Two Long Range Ground Surveillance Radars*” obtained by Mr Oliviu Sugar (PhD Student), Manuel Flores Salinas (PhD Student), Oscar Carranza (Research Associate), Cyril Ledent (Internship Student), Robin Lacroix (Internship Student), Dr Ruxandra Botez, *The 40th American Romanian Academy of Arts and Science ARA Congress, Montreal, Canada, July 28-31, 2016.*
- *Young Scientist Poster Award in Navigation*, Title of the poster: “*Constant Altitude Cruise Trajectory Optimization for Required Time of Arrival*” obtained by Mr Radu Dancila (PhD Student), Loredana Dugulean (Master Student), Dr Ruxandra Botez, *The 40th American Romanian Academy of Arts and Science ARA Congress, Montreal, Canada, July 28-31, 2016.*
- *Recognition for the Best Poster* obtained by Mr Lars-Rudolf Hetfi (Internship student) at the *ÉTS Automated Production Engineering Poster Competition, 2016.*
- *Scholarship awarded* to Miss Andreea Koreanschi (PhD student) at the CRIAQ Forum. Andreea has been selected among PhD students selected from approximately 25 CRIAQ projects in competition, 2016.
- *Third award at the Discovery Day at the Competition of Posters*, Mr Roberto Felix Patron (PhD student), ETS, Montréal, 2014.



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- Students Aerospace Forum (SAF) third award, Mr Georges Ghazi (Master student), ETS, Montreal, 2013.
- Scientific vulgarisation competition, Journée des Découvertes, Third award to Mr Souleymane Sidibe (Master student), ETS, Montreal, 2012.
- SAF second award for their presentation, Mr Robin Calestreme and Mr Francois Michaud (Master students), McGill University, Montreal, 2012.
- Discovery Day, First award for their presentation, Mr Robin Calestreme and Mr Francois Michaud (Master students), ÉTS, Montreal, 2012.
- SAF Award, “Flight Management System Improvement,” Mr. Romain Brisemeur, Mr. Julien Fays, Mr. Gabriel Kouba (Master’s students), 2009.
- American Helicopter Society (AHS) Award, “Bell-427 Parameter Estimation Modeling,” Ms. Sandrine De Jesus Mota (Master’s student), 2008.
- SAF Award, “Bell-427 Parameter Estimation Modeling,” Ms. Sandrine De Jesus Mota (Master’s student), 2008.
- SAF Award, “Neural Network for F/A-18 Aircraft Modeling,” Mr. Thibault DesMottes and Mr. Nicolas Boëly (undergraduate students), 2008.
- AHS Award, “Bell-427 Optimized Proof of Match Methodology,” Mr. Patrick Dionne and Mr. Adil Marzouki (undergraduate students), 2007.
- SAF Award, “Morphing Wing Laminar Flow: New Controller Methodology,” Mr. Michel Labib and Mr. Laurentiu Birla (Master’s students), Mr. Andrei Vladimir Popov (PhD student) and Mr. Julien Fays (undergraduate student), 2007.
- SAF Award, “Subspace Methodology for F/A-18 Aircraft,” Ms. Sandrine De Jesus Mota (undergraduate student), 2006.

#### **4.3 Excellence grades for project reports and thesis students graduating under Dr Botez’ supervision**

- “Numerical and Experimental Validation of the Optimization Methodologies for a Wing-Tip Structure equipped with Conventional and Morphing Ailerons,” Excellent PhD Thesis (proposed for Award), Miss Andreea Koreanschi, 2016.
- “Morphing Wing System Integration with Wind Tunnel Testing,” Excellent Master Thesis (proposed for Award), Mohamed Sadok Guezzuez (Master student), 2016.
- “Validation of Morphing Wing Methodologies on an Unmanned Aerial System and a Wind Tunnel Technology Demonstrator,” Excellent PhD Thesis (proposed for Award), Mr. Oliviu Sugar Gabor (PhD student), 2015.
- “Adaptive Wing: Design of the Actuation System for the Rigid Aileron, Characterization of the Pressure Sensors and Instrumentation for the Static Tests”, Excellent Master’s Thesis, Mr Jean Baptiste Vincent (Master student), 2015.
- “Optimization of the Vertical Flight Profile on the Flight Management System for Green Aircraft,” Excellent PhD Thesis (proposed for Award), Mr. Roberto Felix Patron (PhD student), 2014.
- “Modeling and Simulation of Cessna Citation X,” Excellent Bachelor in Engineering Project Report, Mr Vincent Bélanger and Jonathan Bélanger, 2014.

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- “Development of a Simulation Platform and an Automatic Pilot for the Business Aircraft,” Excellent Master's Thesis (proposed for Award), Mr. Georges Ghazi, 2014.
- “New Method of Optimisation for the Flight Cost by use of an FMS and its validation on a Lockheed L-1011 Tristar,” Excellent Master's Thesis (proposed for Award), Mr. Jocelyn Gagne, 2013.
- “Estimation of the Wing Lift Coefficient for the Cessna Citation X,” Excellent Bachelor in Eng. Project Report, Miss Isabelle Cadrin, 2013.
- “Vertical profile optimization for the Flight Management System CMA-9000 using the Golden Section Search method,” Best Oral Presentation Award at the IECON 2012, Montreal, Que., Canada, Mr. Roberto Felix Patron (PhD student), October 22-26, 2013.
- “FMS Optimization Trajectories,” Best Oral Presentation Award at the *International Symposium on Industrial Electronics IEEE\_ISIE*, Montreal, Que., Canada, Mr. Roberto Felix Patron (PhD student), 2012.
- “Application of Genetical Algorithms in the Management of Aerial Conflicts in the Cruise Regime,” Excellent Master's Thesis, Mr. Romain Brisemeur, 2010.
- “Determination of Hawker-800 XP Aircraft Stability from its Geometrical Data,” Excellent Master's Thesis, Mr. Dumitru Popescu, 2010.
- “Identification and Validation of a Model of the Bell-427 Helicopter from Flight Test Data with a Time-Domain Method,” Excellent Master's Thesis, Miss Sandrine De Jesus Mota, 2008.
- “Formulation of Mathematical Models using Parameter Estimation Techniques and Flight Test Data for the Bell-427 Helicopter and the F/A-18 Active Aeroelastic Wing Research Aircraft,” Excellent PhD Thesis, Mr. Michel Nadeau Beaulieu, 2007.
- “Ground Dynamics Model Validation for a Simulator Certification,” Best Oral Presentation Award at the *International Symposium on Industrial Electronics IEEE\_ISIE*, Montreal, Que., Canada, Mr. Michel Nadeau-Beaulieu (PhD student), June 9-13, 2006.

#### **4.4 Media (French, English, Italian, Spanish and Romanian languages)**

A number of 75 articles were written by media on the research achievements of Dr Botez.

- Article entitled 'ETS Professor Ruxandra Botez Elected Associate Fellow in the AIAA', written by Mr Philippe Cauchi, 2016, *Info-Aero-Quebec*, <http://infoaeroquebec.net/ets-professor-ruxandra-botez-elected-associate-fellow-in-the-aiaa/2016>.
- Radio Interview, Radio-Canada, Les années lumière, 'Voler plus vert', [http://ici.radio-canada.ca/emissions/les\\_annees\\_lumiere/2015-2016/chronique.asp?idChronique=417942](http://ici.radio-canada.ca/emissions/les_annees_lumiere/2015-2016/chronique.asp?idChronique=417942), 2016.
- Article entitled 'Success story: GARDN Project key to a new Canada-Ukraine collaboration' written in the GARDN 2015-2016 Annual Report on the GARDN II round project collaboration between Esterline CMC Electronics and LARCASE at the ETS, 2016, [http://gardn.org/wp-content/uploads/2015/07/GARDN\\_Rapport\\_esquisse\\_EN-web.pdf](http://gardn.org/wp-content/uploads/2015/07/GARDN_Rapport_esquisse_EN-web.pdf).
- Article entitled 'Une collaboration étroite avec la NASA' by Mr Jean Francois Venne, Les Affaires, 2016.

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- Article entitled 'Vingt ans de collaboration en recherche avec la NASA' by Mrs Emmanuelle Berthou, ETS, 2016.
- Les filles découvrent l'aviation à Lachute, 2016, <https://www.eventbrite.ca/e/billets-les-filles-decouvrent-laviation-a-lachute-20268461514>, 12 March, 2016.
- Video for the Major Campaign of Finances for ETS, 21<sup>st</sup> of April 2016, <https://www.youtube.com/watch?v=8KqglqTvSJw&feature=youtu.be>.
- Contribution to the 'Adaptive Structures Highlights Article' published in 'Aerospace America 2015' on the progress of the CRIAQ MDO 505 project, 2015.
- Article entitled 'The security reinforced for the aeronautical companies' published in 'La Presse' and written by M Philippe Mercure, 2015, <http://affaires.lapresse.ca/economie/transports/201503/26/01-4855788-la-securite-resserree-par-les-compagnies-aeriennes.php>.
- Pledge on the support of women in engineering for the next 25 years, 2015. Collectively, our individual actions will have a big impact! Pledge written by Ruxandra and other women can be found on the web site of the Chair for Women in Science and Engineering hold by Prof Catherine Mavriplis on the <http://scieng-women-ontario.ca/en/impact25/>
- Article entitled "Ruxandra Botez, winner of the Venetia Award", 2015, Rewarded aeronautical international project' written at ETS by Mrs Stéphanie Benoit, <http://www.etsmtl.ca/nouvelles/2015/Ruxandra-Botez,-laureate-d-un-prix-Premio-Venezia>.
- Article regarding UAS collaboration between Dr Pier Marzocca from Clarkson University and Dr Ruxandra Botez from ETS, 2014, <http://www.clarkson.edu/news/2013/news-release-2013-10-10-1.html>
- Article entitled "A Morphing Wing", 2015, written by NSERC, <http://www.nserc-crsng.gc.ca/db-tb/story-eng.asp?province=0&category=6&year=2014&story=12012>.
- Article entitled 'PROMEXICO, 2014, Negocios / Hydra Technologies, unmanned innovation', 2014, <http://www.promexico.gob.mx/documentos/revista-negocios/html/2014-07/english/07-2014/art15.html>
- *LARCASE ÉTS, SAE International vulgarise un article de l'équipe de recherche, 21 novembre 2014, <http://etsmtl.ca/nouvelles/2014/SAE-vulgarise-article-LARCASE-ETS>, written by Chantal Crevier.*
- Contribution to the 'Adaptive Structures Highlights Article' published in 'Aerospace America 2014' on the progress of the CRIAQ MDO 505 project, 2014.
- *Article published in Aerospace and Defense Technology, The Engineers Guide to Design and Manufacturing Advances, page 35: Technology Update: ETS researchers develop new methodology for wind tunnel calibration, 2014.*
- Article on the 'Third Award at the Discovery Day at the Competition of Posters', Mr Robert Felix Patron (PhD student), ETS, Montréal, 2014.

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- Article on the *Short list* of the best 14 presentations and papers at the Award selection at the *Greener Aviation 2014* conference. [Info-Aero web site](#)
- Article published regarding the Excellence Award for Miss Isabelle Cadrin, <http://www.etsmtl.ca/nouvelles/2013/Collation-des-grades-de-baccalaureat>, The title is: *Collation des grades de baccalaureat, Des diplômés et des prix au 1er cycle*, 2013.
- Article published on the web site <http://acheon.eu/acheon-international-rd-cooperation-with-canada/> - title is : ACHEON international R&D cooperation with Canada.
- Article published on the web site <http://www.eumaat.info/meetings/> - the title is : MAAT Meeting 18th to 20th September 2013 in Montreal, Canada.
- Presentation at CASI of 53 women in Aerospace Engineering where professor Ruxandra Botez was mentioned, <http://scieng-women-ontario.ca/en/2013/05/casi-aero-women-in-aerospace-reception-a-soaring-success/>,
- Students Aerospace Forum (SAF) third award, Mr Georges Ghazi (Master student), ETS, Montreal, 2013.
- Article published in the Romanian paper Zig Zag in Montreal: "Reuxandra Botez : un mugur al scolii de aeronautica din Montreal : mi-a placut zborul decind ma stiu", article written by Mrs Letitia Militaro.
- Scientific vulgarisation competition, Journée des Découvertes, ETS, Third award to Mr Souleymane Sidibe (Master student), 2012.
- Images of student Clement D'Artigues working on the Aircraft Flight Research Simulator in the film "Montréal, troisième ville aéronautique du monde" by AFP. Video Only, October 2012. Journalist: Laurent Vu The.
- Article published by Mrs Manon Lamoureux - the *Communiqués ÉTS* in 2012 on the obtention of the Presagis Award for the project.
- Congratulations letter obtained from the Prime Minister Stephen Harper with the occasion of obtention of the Canada Research Chair in Aircraft Modeling and Simulation, April 2012.
- Article in the Metro newspaper - Francois Michaud (Master student), <http://journalmetro.com/plus/carrieres/131572/genie-aerospatial-ameliorer-laerodynamisme/>.. Third award for the completed CRIAQ 7.1 project obtained with the occasion of the 10th Anniversary of CRIAQ, on 16th of March 2012.
- Article in the Miranda Informativa, in Spanish on the UAS acquisition at LARCASE - ETS. The UAS is manufactured by Hydra Technologies, <http://miradainformativa.com/2011/06/20/industria-jalisciense-logra-contratos-en-salon-de-aeronautica/>.
- Presentations in the pdf format for the NATO Award "RTO Scientific Achievement Award 2012" - the most prestigious award given to a research team AVT-161 in the NATO. Dr Ruxandra Botez is representant of Canada in this section.
- Article "Les étudiants de l'ÉTS se démarquent au FEA 2012," about the Students Aerospace Forum (SAF) second award for their presentation, Mr Robin Calestre and Mr Francois Michaud (Master students), [http://www.etsmtl.ca/nouvelles/2012/Genie-aerospatial-\(1\),](http://www.etsmtl.ca/nouvelles/2012/Genie-aerospatial-(1),) McGill University, Montreal, 13 mars, 2012.

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- Article “Robin Calestreme se distingue avec son projet de recherche de maîtrise”, Competition at “Journée Découvertes”, <http://www.etsmtl.ca/nouvelles/2012/Journee-Decouvertes>, ETS, Montreal, 16th of April, 2012.
- Film on the “Canada Research Chair in Modeling and Simulation of Aircraft,” 2011.
- Film at Tele-Quebec, Canal Savoir, on the “Flight Simulator at LARCASE,” 6<sup>th</sup> of April, 2011.
- Article “Des avions verts pour un ciel encore bleu,” by Mr Réginald Harvey, *Le Devoir*, 26th of February 2011.
- Article “Meet the scientist,” Newsletter of the Romanian Embassy in Ottawa, February 2011.
- Article “Lancement de la chaire de recherche de la professeure Ruxandra Botez,” 9th of February 2011, <http://www.etsmtl.ca/nouvelles/2011/Genie-aerospatial>.
- Pamphlet for the Canada Research Chair advertisement given on 3rd of February 2011.
- Presentation for the Canada Research Chair advertisement given on 3rd of February 2011.
- Articles “Un simulateur de vol qui donne des ailes” and “Une soufflerie subsonique à l’ÉTS, The ETS Journal called L’ÉTS@360, Summer 2010, [http://www.etsmtl.ca/publications/ETS\\_360.pdf](http://www.etsmtl.ca/publications/ETS_360.pdf).
- Article “Fonds des leaders de la Fondation Canadienne pour l’Innovation,” Journée Découvertes, [http://www.etsmtl.ca/zone2/recherche/journee\\_decouvertes/fondsleader.html](http://www.etsmtl.ca/zone2/recherche/journee_decouvertes/fondsleader.html), 17 March, ÉTS, 2010.
- Article “Italian delegation at Aerospace Innovation Forum,” published in the *La Page, Newsletter of the Italian Chamber of Commerce*, Vol. 9.1, 2010.
- Article “Génie aérospatial : Soutien substantiel pour Ruxandra Botez,” published in *L’ÉTS @ 360°*, Vol. 5(1), [http://www.etsmtl.ca/publications/ETS\\_360\\_Vol5No1.pdf](http://www.etsmtl.ca/publications/ETS_360_Vol5No1.pdf), Summer 2009.
- Citation on *Wikipedia* among “Notable Romanian-Canadians in Science (one of eight personalities),” [http://en.wikipedia.org/wiki/Romanian\\_Canadian](http://en.wikipedia.org/wiki/Romanian_Canadian), 2009.
- Interview “L’aile d’avion intelligente et la professeure Ruxandra Botez,” published in the *Brochure de la recherche 2007-2008*, ÉTS, 2009.
- Articles published by the *Communiqués ÉTS* on Dr. Botez’s research activities (<http://www.etsmtl.ca/zone1/communiqués/index.asp>):
  - “La professeure Ruxandra Botez participe aux recherches pour des avions moins polluants,” 5/15/2009.
  - “La professeure Ruxandra Botez obtient un important appui financier pour pousser ses recherches,” 1/08/2009.
  - “Trois prix pour l’ÉTS au Forum des étudiants en aérospatiale,” 11/10/2008.
  - “Ruxandra Botez reçoit le prix d’excellence 2007 en recherche,” 11/26/2007.
  - “Des étudiants de l’ÉTS se distinguent,” 11/20/2007.
  - “Trois professeurs de l’ÉTS pionniers du CRIAQ,” 01/10/2007.
- Citation as a world scientific personality in an article written by Mrs. Elena Stefoi, Romanian Ambassador to Canada, sent to the Romanian Communities of Canada. The article is entitled “Simboluri, date statistice și experiențe contemporane,” and is

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published in the journal *Vatra*, <http://ottawa.mae.ro/index.php?lang=ro&id=72922>, October 2008.

- Article “Forum des étudiants en aérospatiale,” published in *L'ÉTS @ 360°*, Vol. 4(2), [http://www.etsmtl.ca/publications/ETS\\_360\\_Vol4No2.pdf](http://www.etsmtl.ca/publications/ETS_360_Vol4No2.pdf), Fall 2008.
- Citation as a Romanian personality in the article “Comunitatea romanilor din Canada,” [http://www.evz.ro/dmain/article/15/Comunitatea-romanilor-din-Canada/?id\\_domain=4,09/27/2007](http://www.evz.ro/dmain/article/15/Comunitatea-romanilor-din-Canada/?id_domain=4,09/27/2007).
- Radio interview in Bucharest, Romania “Destins roumains,” February 2007.
- Citation as a Romanian personality who enriches Romanian-Canadian heritage in the special supplement of the publication “Nine O’Clock,” dedicated to Canada Day, <http://www.ottawa.mae.ro/index.php?lang=ro&id=40813>, July 2007.
- Article “Prix d’excellence 2007,” published in *L'ÉTS @ 360°*, Vol. 3(2), [http://www.etsmtl.ca/publications/ETS\\_360\\_Vol3No2.pdf](http://www.etsmtl.ca/publications/ETS_360_Vol3No2.pdf), Fall 2007.
- Description of the CRIAQ 7.1 research project in which the the names of Dr Botez and the other researchers are listed. Article “ÉTS et Polytechnique: des partenaires de génie en recherche et développement!” in *Le Polyscope*, journal edited by the École Polytechnique de Montreal, 2007.
- Article published on Dr. Botez’s research activities and projects, entitled “Le génie aéronautique et aérospatial à son meilleur!” in *Plein Vol* and in *Plan*, June 9-10, 2007.
- Interview published in *Pagini Romanesti*: “O femeie la inaltime” <http://paginiromanesti.com/articol.asp?codart=2-M05-05061>, October 23, 2006.
- Article “La dame de fer,” published in *L'ÉTS @ 360°*, Vol. 2(2), [http://www.etsmtl.ca/publications/ETS\\_360\\_Vol2No2.pdf](http://www.etsmtl.ca/publications/ETS_360_Vol2No2.pdf), Fall 2006.
- Article published in *Xpress* (NASA publication), Vol. 46(10), entitled “Researchers travel to Canada; new partnerships could result,” <http://www.scribd.com/doc/349650/NASA-102717main-vol-46issue-10Nov-042>, November 26, 2004.
- Interview “Maîtriser les conditions critiques de vol,” published in *L'ÉTS @ 360°*, on the CRIAQ 3.4 project achievements, January 2004.
- Radio interview in Romania: “Enseignement et recherche au Canada,” July 2004.
- Citation for Dr. Botez’s role as a collaborator on a project funded by the Canadian Foundation for Innovation (CFI) in the article “Un projet de l’École Polytechnique reçoit une contribution de 223,104 \$ de la Fondation canadienne pour l’innovation (FCI),” <http://www.polymtl.ca/carrefour/article.php?no=1716>, July 2004.
- Interview “Les femmes en science et en technologie : Des réalisations remarquables, une contribution exceptionnelle,” published in *Gazette des femmes*, March-April 2004.
- Interview “La recherche aérospatiale s’organise,” published in *Découvrir*, November-December 2003.
- Citation as a scientific world personality in the article “Prezente canadiene in Romania debuteaza in mai la Bucuresti,” published in *Romania Libera*, April 24, 2003.
- Citation as a member of the organizing committee of the ARA Congress in the article *Tribuna noastra*, no. 28, in the paper entitled “Al XXVI-lea Congres annual ARA la Montreal,” and in bulletin *Calea de lumina*,” [http://conexromcan.com/eglise/ara\\_26\\_2001.htm](http://conexromcan.com/eglise/ara_26_2001.htm), 2001.

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- Citation as a full member of ARA Canada in the *American Romanian Academy of Arts and Sciences Newsletter*, 2000.
- Citation as a new ARA member in the *American Romanian Academy of Arts and Sciences Newsletter*, <http://www.public.asu.edu/~gzi747/nl-may99.html>

## 5. TRAINING AND SUPERVISORY EXPERIENCE

### 5.1 Founding of the first aeronautical laboratory at ETS, called the LARCASE

Dr Botez is the founder and director of the multidisciplinary aeronautical laboratory at ÉTS, called LARCASE (Laboratory of Applied Research in Active Controls, Aeroservoelasticity and Avionics), where more than forty students have worked every year since its foundation in 2003 (<http://www.larcase.etsmtl.ca>).

The high interest demonstrated by students in the multidisciplinary research fields at LARCASE may be explained by the scientific and technical aspects of research projects that have been funded there to date by aerospace companies and government organizations. Flight and wind tunnel tests have been performed by aerospace companies on real aircraft and helicopters and were provided to Dr Botez's team to validate newly-conceived aircraft and helicopter simulation models.

The website of the LARCASE laboratory at ÉTS is continuously being updated and provides details on research projects, graduate students' names and publication content. In fact, this laboratory website facilitates industrial collaborations and student recruitment, both at the national and international levels.

At the LARCASE, students acquire the experience and expertise required to work in aerospace aircraft design and research companies and institutes in Canada. The opportunity to offer this rare expertise to graduate students is possible because of the excellent research environment provided at LARCASE, which is one of the best-equipped academic aeronautical laboratories in Quebec, and probably in Canada, in terms of geometrical and experimental (flight and wind tunnel) data for aircraft and rotorcraft. The publication of papers in well-known refereed aerospace journals is encouraged. Graduate students who have worked at LARCASE have been recruited by Bombardier, CAE Inc., Bell Helicopter Textron, CMC Electronics-Esterline and other companies upon graduation, where they continue to work in research areas similar to those developed during their graduate studies.

The laboratory LARCASE is equipped, as mentioned earlier with three major research equipments.

Researchers and professors from various universities, research institutes and companies have visited Dr. Botez at LARCASE at the ÉTS to attend presentations given by her and her students on their research projects, to present conferences on their own research, and to discuss and establish common research collaboration axes.

International researchers have visited LARCASE from research institutes such as NASA DFRC and NASA Langley in the USA, ONERA in France, FOI in Sweden, from companies Embraer in Brazil and J2 in Great Britain, and from universities: Florida University in the USA,

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KTH in Sweden, Frederico II in Italy, the University of Avionics and the Faculty of Aircraft Design in Romania.

Students working on research projects under Dr Botez' supervision have received many awards at various competitions such as the Student Aerospace Forum (SAF) organized by CRIAQ and the American Helicopter Society (AHS) and competitions organized at ETS.

## 5.2 Graduate Student Recruitment

Dr. Botez was one of the professors responsible for initiating the two ÉTS student competition teams for the design and operation of two vehicles: SONIA and the DRONOLAB at the ÉTS. SONIA is an intelligent and autonomous nautical operations system and DRONOLAB is an autonomous small aircraft. Dr. Botez recruits graduate students at ÉTS from these excellent competition teams, as well as from the Avion Cargo team.

Since 2006, Dr. Botez has maintained contact with two aerospace universities, ESTACA in France, and the Faculty of Aircraft Design in Romania, from where a high number of aerospace engineering students have been recruited. Most of these students establish and work in Canada at the end of their studies.

Since 2008, Dr. Botez has been actively involved in two teaching and research programs. She was responsible for the establishment of the Master's degree program in Aerospace Research Engineering, and for the Bachelor's degree program in Aerospace Engineering (Electrical, Mechanical and Automated Production Engineering programs). The Master's in Aerospace Research Engineering was approved in summer 2009, and the first students enrolled in September 2009. ÉTS attracts a large number of undergraduate and graduate students in the aerospace field, from Quebec and from all over Canada, as well as internationally. She is also the responsible of the Bachelor in Aerospace Engineering Program in the Department of Automated Production Engineering at ETS.