

EXHIBIT 4

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FLYERS RIGHTS EDUCATION)	
FUND, INC, <i>et al.</i> ,)	
t)	
Plaintiffs,)	
)	
v.)	Civil Action No. 19-3749 (CKK)
)	
FEDERAL AVIATION ADMINISTRATION,)	
)	
Defendant.)	
)	
)	

DECLARATION OF Javier de Luis, PhD

I, Javier de Luis, hereby declare and state as follows:

1. I am an aeronautical engineer and scientist with 30 years of experience. My resume is attached hereto as Exhibit A.
2. I have BS, MS, and PhD degrees from the Massachusetts Institute of Technology (MIT) in Aeronautics and Astronautics and a second MS in Engineering Management awarded jointly the MIT School of Engineering and the Sloan School of Management.
3. I have been employed as a Lecturer, Instructor and Consultant, and Research Associate by the MIT Department of Aeronautics and Astronautics, as the VP for R&D and Chief Scientist for Aurora Flight Sciences. I was the Owner and Chief Scientist of Payload Systems Inc.
4. I am a published author and frequent contributor to technical journals in my field, have received numerous awards and several patents (all listed in Exhibit A)

5. I submit this Declaration in support of the Motion of Plaintiff Flyers Rights Education Fund, Inc., for summary judgment on the grounds that the Defendant Federal Aviation Administration (FAA) has improperly invoked Exemption 4 of the Freedom of Information Act (trade secrets and confidentiality) to shield from public disclosure a large number of documents and substantial portions of documents setting out the minimum technical information needed for any independent expert to evaluate advise the public as to the basis for any FAA decision to unground the 737 MAX aircraft.

6. I have reviewed the FAA's Notice of Proposed Rulemaking setting out a proposed Airworthiness Directive approving certain changes to the Boeing 737 MAX aircraft, as a condition for recertification and ungrounding of the aircraft. FAA, *Airworthiness Directives: The Boeing Company Airplanes*, 85 Fed. Reg. 47698 (Aug. 6, 2020), FAA-2020-0686 on www.Regulations.gov. This proposal has generated more than 300 mostly unfavorable comments.

7. The FAA proposal omits any technical data to justify the proposed fixes (i.e., turning off the MCAS software and the autopilot whenever there is disagreement between the two AOA sensors and requiring the aircraft to be flown manually by the pilot to a safe landing zone). For that reason, the FAA proposal raises more questions than it answers.

8. I have reviewed the documents produced by the FAA to FlyersRights in this case, and redactions in those documents. I have also reviewed the Vaughn Index filed by the FAA in this case, including descriptions of the withheld information and of the many documents withheld in their entirety.

9. Many of the documents or portions of documents withheld under FOIA Exemption 4 s "confidential" commercial information, according to the Vaughn Index, consist of

Boeing's certification plans; testing methods; means of compliance;" flight test plans and criteria; flight test results; safety analyses; and FAA and government agency or entity comments on safety analyses, all relating to various critical hardware and software components of the 737 MAX or to specific functions of those components.

10. The technical details of how Boeing intends to demonstrate compliance of various equipment and software components with FAA requirements; how Boeing intends to achieve certification of these components by the FAA; the methods of testing; and the results of testing including safety analyses, are the most critical and essential information that would need to be made public in order to disclose the actual basis for any decision by the FAA to unground the aircraft; and in order for any independent expert, aviation journalist, or public interest advocate to advise the public whether there is a sufficient basis for any FAA decision to unground the aircraft.

11. It is not possible for me, personally, to express any view to the public regarding, or to inform the public about the actual basis for, the FAA re-certification process, and about the issue of whether the 737 MAX is actually safe to fly, without access to the categories of information set out in paragraph 4.

12. For example, in its *Preliminary Summary of the AFAA's Review of the Boeing 737 Max* (Aug. 3, 2020), the FAA claims more than 4,000 hours of flight testing and describes how many crews were involved, what general features were being tested and who had input into the flight plan. But the FAA does not disclose what the test flight plans actually were or any of the specific results of the test flights. Without such information, there is no way to confirm whether the test flight for a particular component or feature actually demonstrated that the component or feature worked properly and safely.

13. Beginning in early 2019, FAA officials have repeatedly committed to the public and to Congress that the agency would be transparent, specifically about the FAA process to certify a design change for the 737 MAX and ensure it is safe to fly, before any decision to unground the aircraft.

14. Beginning in early 2019, Boeing officials as well repeatedly promised transparency with respect to “every subject,” specifically including the certification process.

15. I understand that one of the conditions for finding that information is confidential under Exemption 4 is that the information was communicated to the government agency with some assurance by the agency that the information would be kept confidential.

16. Given that the FAA specifically and publicly committed to transparency with the public with respect to the re-certification process, Boeing could not possibly have believed or understood that FAA was providing any assurance that the information Boeing was providing with respect to certification plans, testing plans, details and results, means of compliance, flight test plans and results, and safety analyses would be kept confidential.

17. To the contrary, Boeing must have clearly understood that the FAA could not meet its commitment to transparency with respect to the certification process without making these categories of information publicly available.

I declare under the penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed on October 26, 2020

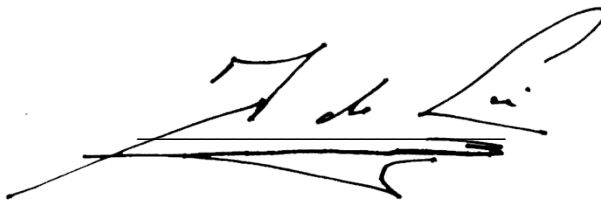


Exhibit A: Resume of Javier de Luis, PhD

Javier de Luis, PhD

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QUALIFICATIONS

Over thirty years industry experience managing complex, technology projects and organizations. Excellent technical and management background. Proven strategic thinking, analysis, communication, and problem-solving skills, as well as leadership ability and commitment.

EDUCATION

Doctor of Philosophy, Massachusetts Institute of Technology/Department of Aeronautics and Astronautics
Master of Science in Engineering and Management, Massachusetts Institute of Technology/School of Engineering and Sloan School of Management.
Master of Science, Massachusetts Institute of Technology/Department of Aeronautics and Astronautics
Bachelor of Science, Massachusetts Institute of Technology/Department of Aeronautics and Astronautics

ACADEMIC APPOINTMENTS

- 2018 –pres. *Lecturer, MIT Dept. of Aeronautics and Astronautics*
Instructor for the systems engineering teams for various capstone senior and graduate design classes. Fund-raised for the Zero Robotics STEM competition, an MIT-run contest for high school and middle school students using robots on the International Space Station.
- 1994 – 2017 *Research Affiliate, MIT Dept. of Aeronautics and Astronautics*
Instructor for numerous classes and research programs, including the first Conceive, Design, Integrate, and Operate (CDIO) class. This class developed the SPHERES satellites, which were deployed on-board the International Space Station. Project Manager for MIT/Draper's Lunar/Mars Exploration Architecture program.
- 1992 – 1994 *Visiting Engineer, MIT Dept. of Aeronautics and Astronautics*
Project Manager for the MODE and MACE programs on board the Space Shuttle.

EMPLOYMENT

- 2015 –pres. *Consultant*
Provide consulting and business development services to local aerospace companies and educational institutions. Focused on government contracting, product development, and strategy.

- 2007 -2015 *VP of R&D, Chief Scientist, Aurora Flight Sciences*
Responsible for internal and external research and development activities for 500 person aerospace company. Grew externally funded R&D activities from \$3M to \$30M over last seven years. Reports directly to company president. Responsible for outreach activities in cooperation with MIT, Draper, and other organizations and universities. Project Manager on numerous additional NASA and DoD R&D projects.
- 2001-2007 *CEO and Chief Scientist, Payload Systems Inc.*
Responsible for corporate strategy development and planning of 30-person spaceflight research and hardware development company. Provided technical direction and expertise for all company projects. Project Manager for major NASA hardware development project (Cell Culture Unit). Guided project through major replanning and rescoping activities due to NASA budget and requirement changes. Project Manager (30 staff and students) for MIT Concept Exploration and Refinement program for the NASA Exploration Systems Division, responsible for technical direction, financial management, and customer reporting. Technical lead on numerous additional NASA and DoD R&D projects.
- 1989-2001 *President and Staff Scientist, Payload Systems Inc.*
Project manager and/or engineering lead for over a dozen NASA technology, spaceflight development, and aerospace programs. All payloads were flown successfully and all mission objectives were achieved. At the corporate level, responsible for financial management and oversight; personnel hiring, evaluation, and termination; business development and client relations. Appeared on several local news programs as commentator during Shuttle missions. Astronaut candidate finalist, 1989, 1998, 2000. Numerous NASA awards, including Group Achievement Award.
- 1989-1989 *Researcher Associate, Mass. Inst. Of Tech.*
Responsible for the definition of test articles for two spaceflight experiments. Supervised graduate students conducting laboratory experiments using prototype intelligent structure.

AWARDS

- AIAA New England Aerospace Engineer of the Year, 2002
NASA Certificate of Appreciation for the Middeck Active Control Experiment (MACE), 1997
NASA Manned Flight Awareness Award for Dynamic Load Sensor Experiment
NASA Group Achievement Award for the Middeck 0-Gravity Dynamics Experiment
OAST "Commendation for Technology Excellence" for the Middeck 0-Gravity Dynamics Experiment.
NASA First to Fly award for the successful flight of the MODE precursor mission (MODE-0) on-board STS-40. This experiment was conceived, manifested, and

carried out in under three months.

Finalist, 1989, 1998, 2000 NASA Astronaut Candidate Selection Program.

Received United States patent #4849668 for the development of technique to electrically insulate embedded piezoelectrics from surrounding laminated structure while maintaining actuator and sensor effectiveness.

Received United States patents #7838716 and #8395010 for a high speed swelling hemostatic device that functions as an internal tourniquet to apply pressure on wound cavities to stop or restrict the flow of blood

Received United States patent #7980024 for a photobioreactor system positioned on bodies of water such as a pond or a lake.

MIT James Means Memorial Prize for excellence in space systems engineering for work performed in the design of a meteor protection system for a manned space station.

Authored seminal paper in the field of Smart Materials, "Use of Piezoelectric Actuators as Elements of Intelligent Structures", which has been referenced over 2000 times (as of July-13) by subsequent journal and conference publications.

APPOINTMENTS AND COMMITTEES

NASA Advisory Subcommittee on Technology and Commercialization, 1999 to 2003

Staff, NASA Space Station Subcommittee on Micrometeor and Debris Protection, 1991

Staff, NASA Space Station Subcommittee on ISS External Environment, 1993

PERSONAL

Born in Mexico. Naturalized U.S. citizen as of 1976. Attended secondary school in Lausanne, Switzerland. Speak and write three foreign languages fluently (Spanish, French, Portuguese).

Interests include flying (private pilot VFR license), downhill skiing, scuba diving (PADI advanced open water certificate, 200+ open water dives, including cave, night, and deep dives), photography, international relations, history, and law.

Member, AIAA, AOPA, Tau Beta Pi, Sigma Gamma Tau, Sigma Xi.

President, MIT French House Dormitory, 1980-1981

President, local homeowners community association.

SELECTED PUBLICATIONS

- Velmahos GC, Tabbara M, Spaniolas K, Duggan M, Alam HB, Serra M, Sun L, de Luis J. "Self-expanding hemostatic polymer for control of exsanguinating extremity bleeding". *J Trauma*, 2009; 66:984-8.
- Vunjak-Novakovic, G., Searby, N., de Luis, J, Freed, Lisa E, "Microgravity Studies of Cells and Tissues," Invited Paper, *Ann. N.Y. Acad. Sci.* 974: 504-517 (2002).
- Kundakovic Lj., Pretorius S., Sun L., Larenas P., Rask J., Searby N., de Luis J., Vanderiesche D. and Vunjak-Novakovic G. Myoblast differentiation under flow conditions. NASA Cell Science Conference, February 20-22, 2003, Houston TX.
3. Sun L., Pretorius S., Lagaz J., Preda C., Donovan F., Searby N., Havens C., Vanderiesche D., de Luis J., Parish J. and Vunjak-Novakovic G. Ground base studies of *Saccharomyces cerevisiae* yeast growth in the Cell Culture Unit. NASA Cell Science Conference, February 20-22, 2003, Houston TX.
- Vunjak-Novakovic, G., Searby, N., de Luis, J., Freed, Lisa E., "Microgravity Studies of Cells and Tissues," *Ann. N.Y. Acad. Sci.* 974: 1-14 (2002)
- Miller, D. W., de Luis, J., "Using the Shuttle, MIR and ISS for Operating Micro-Gravity Engineering Research Laboratories," Proceedings of the AIAA Space 2001 Conference & Exposition, AIAA 2001-4648, Albuquerque, NM, August, 2001.
- de Luis, J., Vunjak-Novakovic, G., Searby, N., "Design and Testing of the ISS Cell Culture Unit," IAF/IAA-00-G.4.06, presented at the 51st International Astronautical Congress, Rio de Janeiro, Brazil, Oct. 2000.
- Cho, S., de Luis, J., Bokhour, E., Sullivan, J., Poulin, L., "International Space Station and Shuttle Experiment Support Facility for Structures and Control," Air Force Research Laboratory, Kirtland Air Force Base, NM 87117, AFRL-VS-TR-2000-1005, 1/2000.
- Searby, N.D., de Luis, J., Vunjak-Novakovic, G. (1998) "Design and Development of a Space Station Cell Culture Unit," 1998 Transactions, Vol. 107, Journal of Aerospace, Section 1, pages 445-457.
- Vunjak-Novakovic, G., Preda, C., Bordonaro, J. Pellis, N., de Luis, J., Freed, L.E., "Microgravity Studies on Cells and Tissues: From Mir to the ISS," Space Technology and Applications, International Forum (STAIF-99), Albuquerque NM, January 1999. Published by the American Institute of Physics, pp 442-452, 1999
- Freed, L.E., Pellis, N., Searby, N., de Luis, J., Preda, C., Bordonaro, J., Vunjak-Novakovic, G., "Microgravity Cultivation of Cells and Tissues," *Gravitational Space and Biology Bulletin*, Proceedings of the Am. Soc. for Space and Grav. Biol., October 1998.
- Peterson, Lake and de Luis, "Micron Accuracy Deployment Experiments (MADE): A Space Station Facility for Validating Precision Deployment and Active Controls," Presented at the NGST Technology Challenge Workshop, Oxnard, California, 6/98.
- Searby, N.D., de Luis, J., Vunjak-Novakovic, G. (1998) "Design and Development of a Space Station Cell Culture Unit," SAE Technical Paper Series 981604, 28th International Conference on Environmental Systems, Danvers, MA, July 13 - 16, 1998, pp. 1 - 14.
- Jacques, R.N., Miller, D.W., de Luis, J., "Typical Section Problems for Structural Control Applications," *Journal of Intelligent Material Systems and Structures*, Vol. 7, Nov. 1996.
- Sloot, E.A., Jacobs, J.K., van Ravenzwaaij, J., de Luis, J., "The Canadian Float Zone Furnace - A Multi-User Microgravity Facility for Materials Purification and Crystal Growth," submitted to the 43rd International Astronautical Federation Congress, Austria, 1993.
- Hoskins, W., Klynn, L., Miller, D.W., de Luis, J., "The MACE Active Member," Proc. of the Adaptive Structures, Actuators, and Material Conference, Alexandria, VA, Nov. 1991
- STS-48 L-30 and L-2 Press Conferences. Represented payload organization at NASA pre-mission press conferences.
- Jacques, R.N., Miller, D.W., de Luis, J., "Typical Section Problems for Structural Control Applications," accepted to the AIAA *Journal of Guidance, Control and Dynamics*, Oct. 1991.
- Crawley, E.F., Miller, D.W., de Luis, J., "The MODE Family of On-Orbit Experiment: The Middeck Active Control Experiment," annotated viewgraphs for the 1990 CSI Conference, Orlando, FL Nov. 1990.
- Miller, D.W., de Luis, J., Crawley, E.F., "Dynamics and Control of Multipayload Platforms: The Middeck Active Control Experiment (MACE)," presented at the 41st International Astronautical Federation Congress, Dresden, GDR, Oct 1990.
- de Luis, J., Crawley, E.F., "Active Control Experimental Results on a Prototype Intelligent Structure," presented at the 31st AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conf., Long Beach, Ca. April 1990.
- Crawley, E.F., Miller, D.W., van Schoor, M., de Luis, J., " Middeck 0-Gravity Dynamics Experiment (MODE) Project Plan," M.I.T. Space Systems Laboratory Report, #9-89, July 1989.

Crawley, E.F., de Luis, J., Miller, D.W., "Middeck Active Control Experiment (MACE): Phase A Final Report," M.I.T. Space Systems Laboratory Report, #7-89, June 1989.

de Luis, J., Crawley, E.F., Hall, S.R., "Design and Implementation of Optimal Controllers for Intelligent Structures Using Infinite Order Structural Models," M.I.T. Space Systems Laboratory Report, #3-89, February 1989.

Crawley, E.F., de Luis, J., Hagood, N.W., Anderson, E.H., "Development of Piezoelectric Technology for Applications in Control of Intelligent Structures," presented at the 1988 American Control Conference, Atlanta, Ga. June 1988.

Crawley, E.F., de Luis, J., "Use of Piezoelectric Actuators as Elements of Intelligent Structures," *AIAA Journal*, Vol. 25, No. 10, October 1987, pp. 1373-1385

Crawley, E.F., de Luis, J., "Experimental Verification of Distributed Piezoelectric Actuators for use in Precision Space Structures," AIAA paper 86-0878-CP, presented at the 27th AIAA/ASME/ASCE/ AHS Structures, Structural Dynamics and Materials Conference, San Antonio, Tx. May 1986.

de Luis, J., Crawley, E.F., "The Use of Piezo-Ceramics as Distributed Actuators in Flexible Space Structures," M.I.T. Space Systems Laboratory Report, #20-85, 1985.

Crawley, E.F., de Luis, J., "Use of Piezo-Ceramics as Distributed Actuators in Large Space Structures," AIAA paper 85-0626-CP, presented at the 26th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference, Orlando, Fl., April 1985.