

CURRICULUM VITAE

Luciano Demasi

PROFESSIONAL PREPARATION

- **University of Washington (Seattle) and Politecnico di Torino (Italy)** **March 2004**
Ph.D. in Aerospace Engineering
- **Politecnico di Torino (Italy)** **October 1999**
M. S. in Aerospace Engineering

APPOINTMENTS

- **Interim Chair** **Fall 2023-Spring 2024**
Department of Aerospace Engineering, San Diego State University
- **Professor (with tenure)** **Fall 2017-Present**
Department of Aerospace Engineering, San Diego State University
- **Visiting Professor** **August 2017**
NASA Ames Research Center, Moffett Field, California
- **Visiting Professor** **June 2017-July 2017**
Air Force Institute of Technology (AFIT), Dayton, Ohio
- **Associate Professor (with tenure)** **Fall 2012-Summer 2017**
Department of Aerospace Engineering, San Diego State University
- **Professor** **Fall 2017-Present**
Computational Science Research Center, San Diego State University
- **Associate Professor** **Fall 2012- Summer 2017**
Computational Science Research Center, San Diego State University

- **Assistant Professor** **Fall 2008-Summer 2012**
 Department of Aerospace Engineering, San Diego State University
- **Assistant Professor** **Fall 2008-Summer 2012**
 Computational Science Research Center, San Diego State University
- **Visiting Professor** **May 2012-July 2012**
Air Force Research Lab (AFRL), Dayton, Ohio
- **Visiting Professor (Maitres the Conférences)** **May 2011-July 2011**
Université Paris Ouest, Nanterre La Défense (UFR SITEC), Paris, France
- **Visiting Professor** **July 2011-August 2011**
Air Force Institute of Technology (AFIT), Dayton, Ohio
- **Assistant Professor** **Fall 2011-Fall 2014**
 Department of Mechanical and Aerospace Engineering, Politecnico di Torino (Italy)
- **Postdoctoral Research Associate** **March 2004-July 2008**
 Department of Aeronautics & Astronautics, University of Washington
- **Structural Analyst** **June-October 2001**
ALENIA SPAZIO (Italian Aerospace Company), Torino, Italy
- **Research Assistant** **March-May 2001**
 Department of Aeronautics and Aerospace Engineering, Politecnico di Torino, Torino, Italy
- **Research Assistant** **October-December 1999**
 Department of Aeronautics and Aerospace Engineering, Politecnico di Torino, Torino, Italy
- **Teaching Assistant** **October 2001-February 2002**
 Department of Aeronautics and Aerospace Engineering, Politecnico di Torino, Torino, Italy

HONORS AND AWARDS

- **Outstanding Contribution to Aerospace Research (2023)**
American Institute of Aeronautics and Astronautics (AIAA)
- **Ranked in top 2% of authors worldwide**
*The study, which is conducted annually at Stanford University, creates a publicly available comprehensive database of 100,000 top scientists in 22 scientific fields and 176 subfields. Based on career-long impact Luciano Demasi is ranked **No. 166 over a total of 55,422 authors worldwide** in the subfield of Aerospace & Aeronautics [<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6>].*
- **Associate Fellow-Class of 2019 in the American Institute of Aeronautics and Astronautics (AIAA)**
ASSOCIATE FELLOWS shall be persons who have accomplished or been in charge of important engineering or scientific work, or who have done original work of outstanding merit, or who have otherwise made outstanding contributions to the arts, sciences, or technology of aeronautics or astronautics. Each year, only one for every 150 voting members are selected and approved.
[<https://www.aiaa.org/>].
- **Thomson Highly Cited Researcher, section "Materials Science"**
This Highly Cited Research resource captured the people behind the most influential publications in 21 broad subject categories in life sciences, medicine, physical sciences, engineering and social sciences based on citation metrics. Within their category, these individuals represent less than one-half of one percent of all publishing researchers—truly an extraordinary accomplishment
[<http://highlycited.com>].
- Collier Research HyperSizer/AIAA Structures **best paper award (2013)**
- Composite Structures award for the **best paper of the year (2010)**
- M.S in Aerospace Engineering with final grade of **110/110 Magna cum Laude (Award for Excellence)**
- First author, in 25 years of history of the journal, to have a **series of five papers published at once and without any required change** in the peer-reviewed journal [Composite Structures](#). The comments that were received from the reviewers were the following:

*“A **major** and timely treatise on composite plate theories which will be widely welcomed by the composites community. An easy to understand comparison of composite plate analytical methodologies which succinctly explains the subtleties in more complex problems”.*

*“An **exceptional contribution** to knowledge in laminated plate theory which deserves a wide audience.*

*The most **outstanding contribution** to composite structures this reviewer has had the pleasure of assessing for some time”.*

*“May I add that I greatly enjoyed reading your papers and am sure that they will be widely appreciated. **They break new ground in being the first series of five papers since the Journal began 25 years ago.** Also although occasionally papers are accepted for publication without changes being required, this is unusual. It is very unusual for a series of two papers to be accepted in this way, which makes a series of five “**exponentially unlikely!**”*

- **Italian Habilitation (Full Professorship in Aerospace Engineering)** (Feb 2014)
- **Most Influential Faculty** (Undergraduate teaching award, May 2012)
- **Most Influential Faculty** Undergraduate teaching award, (May 2013)
- **Most Outstanding Aerospace Eng. Faculty** (Undergraduate teaching award, May 2014)
- **Most Influential Faculty** (Undergraduate teaching award, May 2015)

LIST OF PUBLICATIONS

Citation Indices (Google Scholar)

(Author ID: Luciano Demasi)

Citations: 2901 (1112 since 2019)

h-index: 28 (18 since 2019)

i10-index: 58 (35 since 2019)

Citation Indices (SCOPUS)

(Author ID: 8637399400)

Citations: 2649

h-index: 27

Citation Indices

(Stanford University, <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6>)

Rank of composite score within category Aerospace & Aeronautics, self-citations excluded: 153

Composite score self-citations excluded: 3.4175

Total cites to single authored papers self citations excluded: 892

hm index self-citations excluded: 16.78

h index self-citations excluded: 20.9

Publication Statistics

Single-author publications: 26

Publications with undergraduate/graduate students: 53

Publications with collaborators from industry: 8

Publications with other professors: 68

Publications with collaborators from the Air Force Institute of Technology (WPAFB): 3

Publications with collaborators from the Air Force Research Lab (WPAFB): 3

Books

1. **L. Demasi** “*Introduction to Unsteady Aerodynamics and Aeroelasticity*”, **Springer**, ISBN-13: 978-3031500534, **2024**.
2. E. Carrera, **L. Demasi** “*Appunti di Costruzioni Aeronautiche A*” (English translation of the title: “*Notes of Aeronautical Constructions A*”), **Levrotto & Bella**, Torino, **2002**.

Articles in Book

1. P. Junghanns, G. Monegato, **L. Demasi** “*Properties and numerical solution of an integral equation to minimize airplane drag*”, **Contemporary Computational Mathematics – A Celebration of the 80th Birthday of Ian Sloan (Josef Dick, Frances Y Kuo, Henryk Wozniakowski, eds.)**, **Springer-Verlag Heidelberg-Berlin**, **2018**, pp 675-701
1. **L. Demasi**, G. Monegato, R. Cavallaro “*Minimum Induced Drag Theorems for Nonplanar Systems and Closed Wings*”, in A. Frediani (Ed.), **Variational Analysis and Aerospace Engineering III: Mathematical Challenges for the Aerospace of the Future**, **Springer U.S.**, **2017**
2. R. Cavallaro, R. Bombardieri, S. Silvani, **L. Demasi**, G. Bernardini, “*Aeroelasticity of the PrandtlPlane: Body Freedom Flutter, Freeplay and Limit Cycle Oscillation*”, in A. Frediani (Ed.), **Variational Analysis and Aerospace Engineering III: Mathematical Challenges for the Aerospace of the Future**, **Springer U.S.**, **2017**

Journal Papers

1. **L. Demasi**, M. D’Ottavio “*Modeling Challenges and Limitation Principles of Reissner’s Mixed Approaches to Laminates*”, **Under Review**, **2024**
2. **L. Demasi** “*Properties and Layerwise Modeling of the Harlequin Variational Theorem for Composite Structures*”, **Mechanics of Advanced Materials and Structures**, 1-30, <https://doi.org/10.1080/15376494.2023.2260554>, **2023**
3. **L. Demasi** “*Partitioned Parametrized Variational Procedure for the Generation of Theorems of Structural Analysis*”, **Mechanics of Advanced Materials and Structures**, 1-20, <https://doi.org/10.1080/15376494.2022.2044098>, **2022**
4. L. Russo, E. Saetta, R. Tognaccini, G. Dacome, **L. Demasi** “*Aerodynamic Analysis of a Box Winglet: Viscous and Compressible Flow Predictions*”, **Aerotecnica Missili & Spazio**, Vol 101 (4), 321-334, **2022**
5. **L. Demasi**, G. Monegato, R. Cavallaro, R. Rybarczyk “*Optimum Induced Drag of Wingtip Devices: the Concept of Best Winglet Design*”, **Aerotecnica Missili & Spazio**, Vol 101 (1), 61-93, **2022**

6. E. Santarpia, C. Testa, **L. Demasi**, L. Greco, G. Bernardini, “A Hierarchical Generalized Formulation for the Large-Displacement Dynamic analysis of Rotating Plates”, **Computational Mechanics**, 2021, issue 6, DOI: 10.1007/s00466-021-02070-w
7. **L. Demasi**, V. Hong, E. Santarpia, *Reissner’s Mixed Variational Theorem and Triangular Finite Element Discretization: an Energetic Interpretation*”, **Thin-Walled Structures**, 2021, Vol. 166, DOI: 10.1016/j.tws.2021.107994
8. P. Junghanns, G. Monegato, **L. Demasi** “Properties and Numerical Solution of an Integral Equation System to Minimize Airplane Drag for a Multiwing System”, 2020, **Mathematical Methods in the Applied Sciences**, 1-24
9. E. Santarpia, **L. Demasi**, “Large Displacement Models for Composites Based on Murakami’s Zig-Zag function, Green-Lagrange Strain Tensor, and Generalized Unified Formulation”, **Thin-Walled Structures**, 2020, Vol. 150
10. L. Russo, R. Tognaccini, **L. Demasi**, “Box Wing and Induced Drag: Compressibility Effects in Subsonic and Transonic Regimes”, **AIAA Journal**, Vol. 58, No. 6, 2020
11. **L. Demasi**, E. Santarpia “Functional Reconstitution of Reissner’s Mixed Variational Theorem for Finite element Applications”, **AIAA Journal**, Vol. 57, No. 8, pp. 3534-3547, 2019
12. **L. Demasi**, A. Palazotto, E. Santarpia “A Starred Polyhedral Shell Reinforced with Internal Pockets Considering an Internal Vacuum”, **ASCE's Journal of Engineering Mechanics**, 145 (9): 04019064, 2019
13. **L. Demasi**, G. Monegato, R. Cavallaro, R. Rybarczyk “Minimum Induced Drag Conditions for Truss-Braced Wings”, **AIAA Journal**, Vol. 56, No. 12, pp. 4669-4684, 2018
14. **L. Demasi**, G. Monegato, R. Cavallaro “Minimum Induced Drag Theorems for Multi-Wing Systems”, **AIAA Journal**, Vol. 55, No. 10, pp. 3266-3287, 2017
15. **L. Demasi**, G. Biagini, F. Vannucci, E. Santarpia, R. Cavallaro, “Equivalent Single Layer, Zig-Zag and Layerwise Theories for Variable Angle Tow Composite Based on the Generalized Unified Formulation”, **Composite Structures**, Vol. 177, pp. 54-79, 2017, DOI: 10.1016/j.compstruct.2017.06.033
16. N. Teunisse, P. Tiso, **L. Demasi**, R. Cavallaro “Reduced Basis Methods for Structurally Nonlinear Joined Wings”, **Aerospace Science and Technology**, Vol. 68, pp-486-495, 2017, DOI: 10.1016/j.ast.2017.05.041
17. **L. Demasi**, G. Monegato, A. Dipace, R. Cavallaro “Minimum Induced Drag Theorems for Joined Wings, Closed Systems, and Generic Biwings: Theory”, **Journal of Optimization Theory and Applications**, Vol. 169, 1, pp-200-235, 2016, DOI: 10.1007/s10957-015-0849-y, **invited**

18. **L. Demasi**, G. Monegato, E. Rizzo, R. Cavallaro A. Dipace, “*Minimum Induced Drag Theorems for Joined Wings, Closed Systems, and Generic Biwings: Applications*”, **Journal of Optimization Theory and Applications**, Vol. 169, 1, pp-236-261, **2016**, DOI: [10.1007/s10957-015-0850-5](https://doi.org/10.1007/s10957-015-0850-5), **invited**
19. R. Cavallaro, **L. Demasi** “*Challenges, Ideas, and Innovations of Joined-Wing Configurations: A Concept from the Past, an Opportunity for the Future*”, **Progress in Aerospace Sciences**, Vol. 87, pp. 1-93, **invited**, **2016**, DOI: [10.1016/j.paerosci.2016.07.002](https://doi.org/10.1016/j.paerosci.2016.07.002)
20. **L. Demasi**, E. Santarpia, A. Dipace, R. Cavallaro, R. E. Gordnier, “*Aerodynamic and Structural Studies of a Flapping Wing in Forward Flight*”, **AIAA Journal**, Vol. 54, 9, pp-2768-81, **2016**, DOI: [10.2514/1.J054496](https://doi.org/10.2514/1.J054496)
21. R. Cavallaro, R. Bombardieri, **L. Demasi**, A. Iannelli “*PrandtlPlane Joined Wing: Body Freedom Flutter, Limit Cycle Oscillation and Freeplay Studies*”, **Journal of Fluids and Structures**, Vol. 59, No. 11, pp. 57-84, **2015**, DOI: [10.1016/j.jfluidstructs.2015.08.016](https://doi.org/10.1016/j.jfluidstructs.2015.08.016)
22. **L. Demasi**, Y. Ashenafi, R. Cavallaro, E. Santarpia “*Generalized Unified Formulation Shell Element for Variable-Stiffness Composite Laminates and Aeroelastic Applications*”, **Composite Structures**, Vol. 131, pp. 501-515, **2015**, DOI: [10.1016/j.compstruct.2015.05.022](https://doi.org/10.1016/j.compstruct.2015.05.022),
23. R. Cavallaro, A. Iannelli, **L. Demasi**, A. M. Razón “*Phenomenology of Nonlinear Aeroelastic Responses of Highly Deformable Joined Wings*”, **Advances in Aircraft and Spacecraft Science**, Vol. 2, No. 2, pp. 125-168, **2015**
24. **L. Demasi**, R. Cavallaro, F. Bertucelli “*Post-Critical Analysis of Joined Wings: the Concept of Snap-Divergence as a Characterization of the Instability*”, **Journal of Fluids and Structures**, Vol. 54, pp. 701-718, **2015**, DOI: [10.1016/j.jfluidstructs.2015.01.009](https://doi.org/10.1016/j.jfluidstructs.2015.01.009)
25. R. Cavallaro, **L. Demasi**, F. Bertucelli, D. Benson “*Risks of Linear Design of Joined Wings: a Nonlinear Dynamic Perspective in the Presence of Follower Forces*”, **CEAS Aeronautical Journal**, Vol. 6, No. 2, pp. 161-180, **2015**, DOI [10.1007/s13272-014-0136-x](https://doi.org/10.1007/s13272-014-0136-x),
26. **L. Demasi**, A. Dipace, G. Monegato, and R. Cavallaro, “*Invariant Formulation for the Minimum Induced Drag Conditions of Non-planar Wing systems*”, **AIAA Journal**, Vol. 52, No. 10, pp. 2223-2240, **2014**, DOI: [10.2514/1.J052837](https://doi.org/10.2514/1.J052837)
27. R. Cavallaro, **L. Demasi**, A. Passariello “*Nonlinear Analysis of PrandtlPlane Joined Wings: Effects of Anisotropy*”, **AIAA Journal**, Vol. 52, No. 5, pp. 964-980, **2014**, DOI: [10.2514/1.J052242](https://doi.org/10.2514/1.J052242)
28. **L. Demasi**, R. Cavallaro, and A. M. Razón, “*Post-Critical Analysis of PrandtlPlane Joined-Wing Configurations*”, **AIAA Journal**, DOI: [10.2514/1.J051700](https://doi.org/10.2514/1.J051700), Vol. 51, No. 1: pp 161-177, **2013**.
29. E. Carrera, A. Varello, **L. Demasi**, “*A Refined Structural Model for Static Aeroelastic Response and Divergence of Metallic and Composite Wings*”, **CEAS Aeronautical Journal**, Vol. 4, No. 2, pp 175-189, **2013**

30. **L. Demasi**, “Partially Layer Wise Advanced Zig Zag and HSDT Models Based on the Generalized Unified Formulation”, **Engineering Structures**, Vol. 53, pp 63-91, **2013**
31. **L. Demasi**, W. Yu “Assess the Accuracy of the Variational Asymptotic Plate and Shell Analysis Using the Generalized Unified Formulation”, **Mechanics of Advanced Materials and Structures**, Vol. 20, No. 3, pp 227-241, **2013**.
32. **L. Demasi**, A. N. Palazotto, A. Hollenbeck, R. Cavallaro “Exploratory Structural Investigation of a Hawkmoth-Inspired MAV’s Thorax”, **International Journal of Micro Air Vehicles**, Vol. 4, No. 4, **2012**
33. **L. Demasi**, “Partially Zig-Zag Advanced Shear Deformation Theories Based on the Generalized Unified Formulation”, **Composite Structures**, Vol. 94 (2), pg. 363-375, **2012**.
34. E. Carrera, F. A. Fazzolari, and **L. Demasi**, “Vibration Analysis of Anisotropic Simply Supported Plates by using Variable Kinematic and Rayleigh-Ritz Method”, **Journal of Vibration and Acoustics**, Vol. 133, pp. 1-18, **2011**.
35. A. Varello, E. Carrera, **L. Demasi**, “Vortex Lattice Method Coupled with Advanced One-Dimensional Structural Models”, **ASD Journal**, Vol. 2, pp. 53-78, **2011**.
36. A. V. Styuart, E. Livne, **L. Demasi**, M. Mor, “Flutter Failure Risk Assessment for Damage-Tolerant Composite Aircraft Structures”, **AIAA Journal**, vol. 49, 655-669, **2011**, DOI: 10.2514/1.J050862
37. **L. Demasi**, “Invariant Finite Element Model for Composite Structures: the Generalized Unified Formulation”, **AIAA Journal**, Vol. 48, No. 8, **2010**, DOI: 10.2514/1.45416
38. **L. Demasi**, “Three-dimensional closed form solutions and ∞^3 theories for orthotropic plates”, **Mechanics of Advanced Materials and Structures**, Vol. 17, 20-39, **2010**.
39. S. Brischetto, E. Carrera, **L. Demasi**, “Improved Bending Analysis of sandwich plates using Zig-Zag function”, **Composite structures**, Vol. 89, 408-415, **2009**
40. S. Brischetto, E. Carrera, **L. Demasi**, “Improved response of unsymmetrically laminated Sandwich Plates by using Zig-Zag functions”, **Journal of Sandwich Structures and Materials**, Vol. 11, 257-267, **2009**
41. S. Brischetto, E. Carrera, **L. Demasi**, “Free vibration of sandwich plates and shells by using Zig-Zag function”, **Shock and Vibration**, 16, 495-503, **2009**
42. **L. Demasi**, E. Livne, “Aeroelastic coupling of Geometrically Nonlinear Structures and Linear Unsteady Aerodynamics – Two Formulations”, **Journal of Fluids and Structures**, Vol. 25, 918-935, **2009**, DOI: 10.1016/j.jfluidstructs.2009.03.001

43. **L. Demasi**, E. Livne, “*Dynamic Aeroelasticity of Structurally Nonlinear Configurations Using Linear Modally Reduced Aerodynamic Generalized Forces*”, **AIAA Journal**, Vol. 47, No. 1, **2009**, DOI: [10.2514/1.34797](https://doi.org/10.2514/1.34797)
44. **L. Demasi**, “ *∞^6 mixed plate theories based on the Generalized Unified Formulation. Part I: Governing Equations*”, **Composite Structures**, Vol. 87, 1-11, **2009**, DOI: [10.1016/j.compstruct.2008.07.013](https://doi.org/10.1016/j.compstruct.2008.07.013)
45. **L. Demasi**, “ *∞^6 mixed plate theories based on the Generalized Unified Formulation. Part II: Layerwise theories*”, **Composite Structures**, Vol. 87, 12-22, **2009**, DOI: [10.1016/j.compstruct.2008.07.012](https://doi.org/10.1016/j.compstruct.2008.07.012)
46. **L. Demasi**, “ *∞^6 mixed plate theories based on the Generalized Unified Formulation. Part III: Advanced Mixed High Order Shear Deformation Theories*”, **Composite Structures**, Vol. 87, 83-194, **2009**, DOI: [10.1016/j.comstruct.2008.07.01](https://doi.org/10.1016/j.comstruct.2008.07.01)
47. **L. Demasi**, “ *∞^6 mixed plate theories based on the Generalized Unified Formulation. Part IV: Zig-Zag Theories*”, **Composite Structures**, Vol. 87, 195-205, **2009**, DOI: [10.1016/j.compstruct.2008.07.010](https://doi.org/10.1016/j.compstruct.2008.07.010)
48. **L. Demasi**, “ *∞^6 mixed plate theories based on the Generalized Unified Formulation. Part V: Results*”, **Composite Structures**, Vol. 88, 1-16, **2009**, DOI: [10.106/j.compstruct.2008.07.009](https://doi.org/10.106/j.compstruct.2008.07.009)
49. **L. Demasi**, “*2D, Quasi 3D and 3D Exact Solutions for Bending of Thick and Thin Sandwich Plates*”, **Journal of Sandwich Structures & Materials**, Vol.10, No. 4, 271-310, DOI: [10.1177/1099636208089311](https://doi.org/10.1177/1099636208089311), **2008**
50. **L. Demasi**, “ *∞^3 plate theories for thick and thin plates: the generalized unified formulation*”, **Composite Structures**, Vol. 84, 256-270, **2008**
51. **L. Demasi**, “*Three-Dimensional Closed Form Solutions and Exact Thin Plate Theories for Isotropic Plates*”, **Composite Structures**, 80, pp. 183-195, **2007**
52. **L. Demasi**, “*Investigation on the Conditions of Minimum Induced Drag of Closed Wing Systems and C-Wings*”, **Journal of Aircraft**, Vol. 44, No. 1, 81-99, **2007**, DOI: [10.2514/1.21884](https://doi.org/10.2514/1.21884)
53. **L. Demasi**, “*Treatment of Stress Variables in Advanced Multilayered Plate Elements Based Upon Reissner’s Mixed Variational Theorem*”, **Computers & Structures**, 84, pp. 1215-1221, **2006**
54. **L. Demasi**, “*Quasi-3D Analysis of Free Vibration of Anisotropic Plates*”, **Composite Structures**, 74, pp. 449-457, **2006**
55. **L. Demasi**, “*Induced Drag Minimization: a Variational Approach Using the Acceleration Potential*”, **Journal of Aircraft**, Vol.43, No. 3, pp. 669-680, **2006**, DOI: [10.2514/1.15982](https://doi.org/10.2514/1.15982)

56. **L. Demasi**, E. Livne, “*Structural Ritz-Based Simple-Polynomial Nonlinear Equivalent Approach – An Assessment*”, **Journal of Aircraft**, Vol. 43, No. 6, pp. 1685-1697, **2006**, DOI: [10.2514/1.17466](https://doi.org/10.2514/1.17466)
57. **L. Demasi**, “*Refined Multilayered Plate Elements Based on Murakami Zig-Zag Functions*”, **Composite Structures**, 70, pp. 308-316, **2005**
58. E. Carrera, **L. Demasi**, “*Two benchmarks to assess two-dimensional theories of Sandwich Composite Plates*”, **AIAA Journal**, Vol. 41, No. 7, pp. 1356-1362, **2003**
59. E. Carrera, **L. Demasi**, M. Manganello, “*Assessment of Plate Elements on Bending and Vibrations of Composite Structures*”, **Mechanics of Composite Material and Structures**, 9:333-357, **2002**
60. E. Carrera, **L. Demasi**, “*Classical and advanced Multilayered plate element based upon PVD and RMVT. Part I: Derivation of finite element matrices*”, **International Journal for Numerical method in Engineering**, 55: 191-231, **2002**
61. E. Carrera, **L. Demasi**, “*Classical and advanced Multilayered plate element based upon PVD and RMVT. Part II: Numerical implementations*”, **International Journal for Numerical method in Engineering**, 55: 253-291, **2002**

Technical Reports

1. E. Livne, A. Styuart, M. Mor, **L. Demasi** “*Aeroelastic Variability and Uncertainty of Composite Aircraft*”, DOT/FAA/TC-15/19, September **2017**

Conference Papers (Peer Reviewed)

1. **L. Demasi**, M. D’Ottavio “*A Study on Limitation Principles and Numerical Oscillations of Hellinger-Reissner Principle and Reissner’s Mixed Variational Theorem*”, **AIAA Aerospace Sciences Meeting**, January **2024**
2. **L. Demasi** “*Properties and Layerwise Modeling of the Harlequin Variational Theorem for Composite Structures*”, **AIAA Aerospace Sciences Meeting**, January **2023**
3. **L. Demasi**, “*Partitioned Parametrized Variational Procedure for the Generation of Theorems of Structural Analysis*”, **AIAA Aerospace Sciences Meeting**, January **2022**
4. L. Russo, R. E. Saetta, R Tognaccini, G. Dacome, **L. Demasi**, “*Best Winglet of minimum Induced Drag: Viscous and Compressible Flow predictions*”, **AIAA Aviation Forum**, August **2021**
5. L. Russo, R. Tognaccini, **L. Demasi**, “*Box Wing and Induced Drag: Compressibility Effects in Subsonic and Transonic Regimes*”, **AIAA Aerospace Sciences Meeting**, January **2020**
6. V. Hong, E. Santarpia, **L. Demasi**, “*Reissner’s Mixed Variational Theorem and Energy Reconstitution for Triangular Elements*”, **AIAA Aerospace Sciences Meeting**, January **2020**

7. E. Santarpia, **L. Demasi**, “*Computational Architecture Based on Murakami’s Zig-Zag Function for the Geometrically nonlinear Analysis of Variable Angle Tow Laminates*”, **AIAA Aerospace Sciences Meeting**, January 2020
8. E. Santarpia, **L. Demasi**, N. T. Nguyen “*Flapping Transitional Configuration*”, **AIAA Aviation Forum**, Dallas, Texas, June 2019
9. **L. Demasi**, E. Santarpia “*Functional Reconstitution of Reissner’s Mixed Variational Theorem for Finite element Applications*”, **AIAA Aerospace Sciences Meeting**, January 2019
10. **L. Demasi**, G. Monegato, R. Cavallaro, R. Rybarczyk “*Optimum Induced Drag of Wingtip Devices: the Concept of Best Winglet Design*”, **AIAA Aerospace Sciences Meeting**, January 2019
11. **L. Demasi**, G. Biagini, F. Vannucci, E. Santarpia, R. Cavallaro, “*Generalized Unified Formulation-Based Bending Analysis of Variable Angle Tow Panels in the Presence of Hole*”, AIAA Science and Technology Forum and Exposition, **AIAA Aerospace Sciences Meeting**, January 2018
12. **L. Demasi**, G. Monegato, R. Cavallaro, R. Rybarczyk “*Minimum Induced Drag Conditions for Truss-Braced Wings*”, AIAA Science and Technology Forum and Exposition, **AIAA Aerospace Sciences Meeting**, January 2018
13. **L. Demasi**, E. Santarpia, R. Cavallaro, G. Biagini, F. Vannucci “*Zig-Zag and Layerwise Models for Variable-Stiffness Composite Laminates Based on the Generalized Unified Formulation*”, AIAA Science and Technology Forum and Exposition: 58th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2017
14. **L. Demasi**, G. Monegato, R. Cavallaro “*Minimum Induced Drag Theorems for Multi-Wing Systems*”, AIAA Science and Technology Forum and Exposition: 57th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2016.
15. R. Bombardieri, R. Cavallaro, **L. Demasi** “*A Historical Perspective on the Aeroelasticity of Box Wings and PrandtlPlane with New Findings*”, AIAA Science and Technology Forum and Exposition: 57th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2016.
16. **L. Demasi**, Y. Ashenafi, R. Cavallaro, E. Santarpia “*Generalized Unified Formulation Shell Element for Variable-Stiffness Composite Laminates and Aeroelastic Applications*”, presented at the AIAA Science and Technology Forum and Exposition: 56th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2015.
17. **L. Demasi**, G. Monegato, A. Dipace, R. Cavallaro “*Minimum Induced Drag Theorems for Joined Wings, Closed Systems, and Generic Biwings. Part I: Theory*”, presented at the AIAA Science and Technology Forum and Exposition: 56th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2015.

18. **L. Demasi**, G. Monegato, E. Rizzo, R. Cavallaro A. Dipace, “*Minimum Induced Drag Theorems for Joined Wings, Closed Systems, and Generic Biwings. Part II: Results*”, presented at the AIAA Science and Technology Forum and Exposition: 56th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2015.
19. N. Teunisse, P. Tiso, **L. Demasi**, R. Cavallaro “*Computational Reduced Order Methods for Structurally Nonlinear Joined Wings*”, presented at the AIAA Science and Technology Forum and Exposition: 56th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2015.
20. R. Cavallaro, M. Nardini, **L. Demasi**, E. Santarpia “*Amphibious PrandtlPlane: Preliminary Design Aspects Including Propeller's Integration and Ground Effect*”, to be presented at the AIAA Science and Technology Forum and Exposition: 56th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2015.
21. R. Cavallaro, **L. Demasi**, R. Bombardieri, A. Iannelli “*PrandtlPlane Joined Wing: Body Freedom Flutter, Limit Cycle Oscillation and Freeplay Studies*”, to be presented at the AIAA Science and Technology Forum and Exposition: 56th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2015.
22. G. Phlipot, X. Q. Wang, M. Mignolet, **L. Demasi**, R. Cavallaro “*Reduced Order Modeling for the nonlinear Geometric Response of Joined Wings*”, presented at the AIAA Science and Technology Forum and Exposition: 55th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2014.
23. N. Teunisse, **L. Demasi**, P. Tiso, R. Cavallaro “*A Computational Method for Structurally Nonlinear Joined Wings Based on Modal Derivatives*”, presented at the AIAA Science and Technology Forum and Exposition: 55th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2014.
24. R. Cavallaro, A. Iannelli, **L. Demasi**, A. M. Razón “*Phenomenology of Nonlinear Aeroelastic Responses of Highly Deformable Joined-wings Configurations*”, presented at the AIAA Science and Technology Forum and Exposition: 55th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2014.
25. **L. Demasi**, A. Dipace, G. Monegato, and R. Cavallaro, “*An Invariant Formulation for the Minimum Induced Drag Conditions of Non-planar Wing systems*”, to be presented at the AIAA Science and Technology Forum and Exposition: 55th **AIAA/ASME/ASCE/AHS/SC Structures, Structural Dynamics, and Materials Conference**, January 2014.
26. R. Gordnier and **L. Demasi** “*Implicit LES Simulations of Flapping Wing in Forward Flight*”, presented at the **ASME 2013 Fluids Engineering Summer Conference**, Incline Village, Nevada, July 7-11, 2013.

27. R. Cavallaro, **L. Demasi**, F. Bertucelli “*Risks of Linear Design of Joined Wings: a Nonlinear Dynamic Perspective in the Presence of Follower Forces*”, presented at the 54th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Boston, Massachusetts, April 2013.
28. **L. Demasi**, R. Cavallaro, F. Bertucelli “*Post-Critical Analysis of Joined Wings: the Concept of Snap-Divergence as a Characterization of the Instability*”, presented at the 54th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Boston, Massachusetts, April 2013.
29. **L. Demasi**, R. E. Gordnier, E. Santarpia, A. Dipace “*High-fidelity Simulations of a Flexible Flapping Wing in Forward flight*”, presented at the 54th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Boston, Massachusetts, April 2013.
30. **L. Demasi**, A. N. Palazotto, A. Hollenbeck, R. Cavallaro “*Exploratory Structural Investigation of a Hawkmoth-Inspired MAV’s Thorax*”, presented at the 53rd **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Honolulu, Hawaii, April 2012.
31. **L. Demasi**, “*Partially Layerwise Advanced Zig-Zag and HSDT Models Based on the Generalized Unified Formulation*” presented at the 53rd **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Honolulu, Hawaii, April 2012.
32. S. Bhasin, P. C. Chen, Z., Wang, **L. Demasi** “*Dynamic Nonlinear Aeroelastic Analysis of The Joined Wing Configuration*”, presented at the 53rd **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Honolulu, Hawaii, April 2012.
33. R. Cavallaro, **L. Demasi**, A. Passariello “*Nonlinear Analysis of PrandtlPlane Joined Wings-Part II: Effects of Anisotropy*”, presented at the 53rd **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Honolulu, Hawaii, April 2012.
34. **L. Demasi**, “*Partially Zig-Zag Advanced Shear Deformation Theories Based on the Generalized Unified Formulation*” Presented at the 16th **International Conference on Composite Structures (ICCS16)**, Porto, Portugal, 28-30 June 2011.
35. M. Petrolo, E. Carrera, **L. Demasi**, “*An Advanced Unified Aeroelastic Formulation Based on 1D Higher-Order Finite Elements*” Presented at the **International Forum of Aeroelasticity and Structural Dynamics**, Paris, France, 26-30 June 2011.
36. **L. Demasi**, K. Hasslinger, and D. Samardzic, “*Multi-Theory FEM Architecture for the Generation of Advanced Mixed Shear Deformation Theories Based on the Generalized Unified Formulation for Composite Structures*”, Presented at the 25th **Annual Technical Conference (American Society for Composites)**, Dayton, OH, 20-22 September 2010.
37. **L. Demasi**, A. Palacios, “*A Reduced Order Nonlinear Aeroelastic Analysis of Joined Wings Based on the Proper Orthogonal Decomposition*” Presented at the 51st **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Orlando, Florida, 12-15 April 2010.

38. A. Varello, **L. Demasi**, E. Carrera, G. Giunta, “*An Improved Beam Formulation for Aeroelastic Applications*” Presented at the 51st **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Orlando, Florida, 12-15 April 2010.
39. **L. Demasi**, “*An Invariant Model for any Composite Plate Theory and FEM Applications: the Generalized Unified Formulation*” Presented at the 50th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Palm Springs, California, 4-7 May 2009.
40. **L. Demasi**, W. Yu “*Assess the Accuracy of the Variational Asymptotic Plate and Shell Analysis (VAPAS) Using the Generalized Unified Formulation (GUF)*” Presented at the 50th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Palm Springs, California, 4-7 May 2009.
41. **L. Demasi**, E. Livne “*Contributions to Joined-Wing Aeroelasticity*”, **International Forum on Aeroelasticity and Structural Dynamics**, Seattle, Washington, 21-25 June 2009.
42. **L. Demasi**, E. Livne, “*Aeroelastic Coupling of Geometrically Nonlinear Structures and Linear Unsteady Aerodynamics: Two Formulations*”, Presented at the 49th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Schaumburg, Illinois, 7-10 April 2008.
43. **L. Demasi**, E. Livne, “*Dynamic Aeroelasticity of Coupling Full Order Geometrically Nonlinear Structures and Full Order Linear Unsteady Aerodynamic – The Joined Wing Case*”, Presented at the 49th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Schaumburg, Illinois, 7-10 April 2008.
44. A. Styuart, **L. Demasi**, E. Livne and K. Lin, “*Probabilistic Modeling of the Aeroelastic Life Cycle for Risk Evaluation of Composite Structures*” Presented at the 49th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Schaumburg, Illinois, 7-10 April 2008
45. **L. Demasi**, E. Livne, “*Dynamic Aeroelasticity of Structurally Nonlinear Configurations Using Linear Modally Reduced Aerodynamic Generalized Forces*” presented at the 48th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Honolulu, Hawaii, 23-26 April 2007.
46. **L. Demasi**, E. Livne, “*The Structural Order Reduction Challenge in the Case of Geometrically Nonlinear Joined-Wing Configurations*” presented at the 48th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Honolulu, Hawaii, 23-26 April 2007.
47. **L. Demasi**, E. Livne, “*Aeroelasticity of Structurally Nonlinear Lifting Surfaces Using Linear Modally Reduced Aerodynamic Generalized Forces*” presented at the 47th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Newport, Rhode Island, 1-4 May 2006.

48. **L. Demasi**, E. Livne, “*Exploratory Studies of Joined Wing Aeroelasticity*” Presented at the 46th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Austin, Texas, 18-21 April 2005.
49. **L. Demasi**, E. Livne, “*Structural Ritz-Based Simple-Polynomial Nonlinear Equivalent Approach – An Assessment*”. Presented at the 46th **AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference**, Austin, Texas, 18-21, April 2005.
50. **L. Demasi**, E. Livne, “*A Plate Structural Capability for the Nonlinear Aeroelastic Analysis of Joined-Wing Configurations*”. Presented at the **Italian Conference AIDAA** Roma (Italy), 15-19th September 2003.
51. **L. Demasi**, “*Ala Anulare Ellittica: Distribuzione di Circolazione di Minima Resistenza Indotta*”. (English translation of the title: “*Elliptical Annular Wing: Circulation of Minimum Induced Drag*”) Presented at the **Italian Conference AIDAA** Roma (Italy), 15-19th September 2003.
52. **L. Demasi**, “*Effetto delle condizioni al contorno sulla modellizzazione di piastre multistrato*” (English translation of the title: “*Effects of the Boundary Conditions for 2D Models of Multilayered Plates*”) Presented at the **Italian Conference AIDAA** Palermo (Italy), 24-28th September 2001.
53. A. Robaldo, **L. Demasi**, E. Carrera, “*Influence of Temperature Profile on the Accuracy of Classical and Refined Multilayered Plate*”. **Italian Conference GIMC** Genova (Italy), 21-23th June 2004.
54. E. Carrera, **L. Demasi**, “*On Two-Dimensional FEM Simulation of Layered Plates*” **GIMC Conference**, Giulianova 24-26 June 2002 24-26 June, 2002.
55. E. Carrera, **L. Demasi**, “*Sandwich Plate Analysis by Finite Element Method and Reissner's Mixed Theorem*” Fifth **International Conference on Sandwich Construction** Zurich (Switzerland), 5-7th September 2000.
56. E. Carrera, **L. Demasi**, “*An Assessment of Multilayered Finite Plate Elements in View of the C^0_z Requirements*” Presented at the **Italian Conference GIMC** 2000 Brescia (Italy), 13-15th November 2000.
57. E. Carrera, G. Chiocchia, **L. Demasi**, A. Robaldo, “*On the developments of a Joined Wing Prandtlplane*” Presented at the Fifth **World Congress on Computational Mechanics**, Vienna July 7-12 2002.
58. **L. Demasi**, G. Chiocchia, E. Carrera, “*Aerodinamica dei Sistemi Portanti Chiusi: Ala Anulare Ellittica*” (English translation of the title: “*Aerodynamics of the closed Wing Systems: Elliptical Annular Wing*”) Presented at the **Italian Conference AIDAA** Roma (Italy), 15-19th, Sept. 2003.
59. G. Chiocchia, E. Carrera, **L. Demasi**, “*Studio Aerodinamico di un'Ala Anulare Ellittica*”. (English translation of the title: “*Aerodynamic Studies of an Elliptical Annular Wing*”) Presented at the **Italian Conference AIDAA** Palermo (Italy), 24-28th September 2001.

Other Publications (Alenia Spazio Internal Reports)

1. **L. Demasi** et alii, “*RADARSAT-2 Stress Summary Report, Issue 1, Date 25/11/2001*”. [ALENIA SPAZIO Internal report](#)
2. **L. Demasi** et alii, “*RADARSAT-2 Static Analysis Report, Issue 4, Date 22/11/2001*”. [ALENIA SPAZIO Internal report](#)

Patents

1. **L. Demasi**, G. Monegato, R. Cavallaro, R. Rybarczyk “*Optimum Induced Drag of Wingtip Devices: the Concept of Best Winglet Design*”, Unites states provisional patent application number 62/773,861, **2018**
2. G. Youssef and **L. Demasi** “*Mechanoelectrical Energy Harvesting Apparatus and System*”, Unites states provisional patent application number 62/929,593, **2019** and 63/106,477 **2021**

CONFERENCE TALKS (ORAL PRESENTATION ONLY)

1. **L. Demasi** “*Modeling of Composite Structures by Using the Harlequin Variational Theorem*”, [SSDM conference](#), June **2023**, San Diego, California.
2. **L. Demasi** “*Introduction to Unsteady Aerodynamics and Dynamic Aeroelasticity*” (presentation of the book), [SSDM conference](#), May **2024**, Renton, Washington

INVITED PRESENTATIONS

1. *Introduction to Unsteady Aerodynamics and Dynamic Aeroelasticity*” (presentation of the book) ([Aerospace Flutter & Dynamics Council Spring](#), Textron Aviation Cessna Conference Center, Wichita, Kansas, May 3rd, **2024**)
2. *Partitioned Parametrized Variational Procedure for the Generation of Theorems of Structural Analysis* ([University of Limerick](#), Limerick, Ireland, April 20th, **2023**)
3. *Partitioned Parametrized Variational Procedure for the Generation of Theorems of Structural Analysis* ([Universidad Carlos III](#), Madrid, Spain, March 29th, **2022**)
4. *Aerodynamics and Aeroelasticity of Innovative Wing Systems* ([Université Paris Ouest Nanterre La Défense](#), Paris, France, June 21st, **2022**)
5. *Aerodynamics and aeroelasticity of innovative wing systems* ([CISM, International Centre for Mechanical Sciences](#), Udine, Italy, November 23rd, **2020**)
6. *Quasi 3D Large Displacement Zig-Zag and Layerwise Model for Composite Structures and Aeroelastic Applications* ([Aerospace Flutter & Dynamics Council Spring](#), Textron Aviation Cessna Conference Center, Wichita, Kansas, October 17th, **2019**)

7. *Optimal Induced Drag of Wingtip Devices: The Concept of Best Winglet Design* (**Aerospace Flutter & Dynamics Council Spring**, Textron Aviation Cessna Conference Center, Wichita, Kansas, October 18th, **2019**)
8. *Nonlinear Aeroelastic Responses of Highly Deformable Joined-Wing Configurations* (**International Conference on Applications in Nonlinear Dynamics**, Maui, Hawaii, August 9th, **2018**)
9. *Nonlinear Aeroelasticity, Generalized Unified Formulation for Composite Structures and Aerodynamic Models for the Preliminary Design of Wings* (**Politecnico Di Torino**, December, **2017**)
10. *Nonlinear Aeroelastic Responses of Highly Deformable Joined-Wing Configurations* (**University of California Irvine**, Irvine, CA, United States, February 17th, **2017**)
11. *Aeroelastic Responses of Joined-Wing Configurations* (**University of Liverpool**, Liverpool, United Kingdom, December, **2016**)
12. *Nonlinear Aeroelastic Responses of Highly Deformable Joined-Wing Configurations* (**International Conference on Applications in Nonlinear Dynamics**, Denver, Colorado, September 1st, **2016**)
13. *Minimum Induced Drag Theorems for Innovative Wing Systems* (**Computational Science Research Center**, SDSU, San Diego, April 29th, **2016**)
14. *Generalized Unified Formulation Shell Element for Functionally Graded Variable-Stiffness Composite Laminates and Aeroelastic Applications* (**Aerospace Flutter & Dynamics Council Spring**, ATA Offices, San Diego, November 5th and 6th, **2015**)
15. *Minimum Induced Drag Theorems for Joined Wings, Closed Systems, and Generic Biwings* (**Variational Analysis and Applications**, Erice, August 28-September 5, **2015**)
16. *Minimum Induced Drag Theorems for Joined Wings, Closed Systems, and Generic Biwings* (**Aerospace Flutter & Dynamics Council Spring**, NASA AMES, April, **2015**)
17. *Nonlinear Aeroelasticity, Generalized Unified Formulation for Composite Structures and Aerodynamic Models for the Preliminary Design of Wings* (**Politecnico Di Torino**, December, **2014**)
18. *Phenomenology of Nonlinear Aeroelastic Responses of Highly Deformable Joined-wing Configurations* (**Aerospace Flutter & Dynamics Council Spring**, St. Louis, 29-30 May, **2014**)
19. *An Invariant Formulation for the Minimum Induced Drag Conditions of Non-planar Wing Systems* (**Aerospace Flutter & Dynamics Council Spring**, St. Louis, 29-30 May, **2014**)
20. *A Multi-Theory and Multi-Fidelity Computational Architecture for Composite Structures: the Generalized Unified Formulation* (**University of Michigan**, 26 November, **2013**)
21. *A Multi-Theory and Multi-Fidelity Computational Architecture for Composite Structures: the Generalized Unified Formulation* (**TU Delft**, 5 February, **2014**)

22. *The Concept of Snap Divergence for Joined Wings* (**ASME 2013 Fluids Engineering Summer Conference**, Incline Village, Nevada, July 7-11, **2013**)
23. *On the Importance of Taking Into Account Structural Nonlinear Effects in the Preliminary Design of Joined Wings* (**Aerospace Flutter & Dynamics Council Spring**, Houston, Texas, 7 May, **2013**)
24. *On the Importance of Taking Into Account Structural Nonlinear Effects in the Preliminary Design of Joined Wings* (**Meeting of the AIAA Structures Technical Committee**, Boston, Massachusetts, 7 April, **2013**)
25. *Compliant Mechanism for Flapping Unmanned Aerial Systems* (**Air Force Research Lab**, WPAFB, Dayton, **2012**)
26. *Compliant Mechanism for Flapping Unmanned Aerial Systems* (**Army Research Lab**, Aberdeen Proving Ground, **2012**)
27. *Compliant Mechanism for Flapping Unmanned Aerial Systems* (**Aerospace Engineering Department**, San Diego State University, **2012**)
28. *Post Buckling Investigations and Theoretical Implications for the Design of Joined Wings* (**Aerospace Flutter & Dynamics Council**, Santa Ana, **2012**)
29. *A Multi-Theory and Multi-Fidelity Computational Architecture for Composites and Sandwich Structures: the Generalized Unified Formulation* (**Structural Engineering Department, University of California San Diego**, **2012**)
30. *A Reduced Order Nonlinear aeroelastic Analysis of Joined Wings Based on the Proper Orthogonal Decomposition* (**Université Paris Ouest, Nanterre La Défense (UFR SITEC)**, Paris, France, **2011**)
31. *A Reduced Order Nonlinear aeroelastic Analysis of Joined Wings Based on the Proper Orthogonal Decomposition* (**ATA**, San Diego, **2010**)
32. *A Reduced Order Nonlinear aeroelastic Analysis of Joined Wings Based on the Proper Orthogonal Decomposition* (**General Atomics**, San Diego, **2010**)
33. *A Reduced Order Nonlinear aeroelastic Analysis of Joined Wings Based on the Proper Orthogonal Decomposition* (**Aerospace Flutter & Dynamics Council**, San Diego, **2010**)
34. *Explore SDSU Day* (**Aerospace Engineering Department, San Diego State University**, **2010**)
35. *Dynamic Aeroelasticity of Structurally Nonlinear Airplane Configurations Using Modally Reduced Linear Aerodynamic Models* (**Risø National Laboratory for Sustainable Energy**, Technical University of Denmark – DTU, **2009**)
36. *Generalized Unified Formulation for Analysis of Composite Plates* (**Aerospace Engineering Department, San Diego State University**, **2009**)

37. *Dynamic Aeroelasticity of Structurally Nonlinear Airplane Configurations Using Modally Reduced Linear Aerodynamic Models* (**Structural Engineering Department, University of California San Diego, 2009**)
38. *Dynamic Aeroelasticity of Structurally Nonlinear Airplane Configurations Using Modally Reduced Linear Aerodynamic Models* (**Computational Science Research Center, San Diego State University, 2008**)
39. *Aeroelasticity of Lifting Surfaces in the Presence of Geometric Nonlinearity Using the Generalized Aerodynamic Force Matrix* (**Department of Aerospace Engineering, Politecnico di Torino, Italy, 2006**)

TEACHING AND EDUCATIONAL ACTIVITIES

Academic Courses Taught

- AE731 (*Aeroelasticity*, graduate level, *originally developed*)
- AE631 (*Analysis of Elastic Plates*, graduate level, *originally developed*)
- AE611 (*Vibration of Elastic Solids*, graduate level, *restructured*)
- AE410 (*Aerospace Structural Dynamics*, undergraduate level, *restructured*)
- AE200 (*Statics*, undergraduate level, *restructured*)
- AE200 (*Statics*, undergraduate level, *restructured for online delivery of the material*)

Teaching Awards

- **Most Influential Faculty** (2012)
- **Most Influential Faculty** (2013)
- **Most Outstanding Aerospace Engineering Faculty** (2014)
- **Most Influential Faculty** (2015)

SERVICE AND ADMINISTRATIVE WORK AT SAN DIEGO STATE UNIVERSITY

Interim Chair (Aerospace Engineering Department, Fall 2023-Spring 2024)

Member of the of the dean's review panel

Mentoring of Undergraduate Students:

Joseph Marrocco	(Computational Science Research Center)
Dejan Samardzic	(Department of Aerospace Engineering)
Samantha Stoneman	(Department of Aerospace Engineering)
Alan Márquez Razón	(Department of Aerospace Engineering)
Macarena Rey	(Department of Mechanical Engineering)
Ryan scurlock	(Department of Mechanical Engineering)

M. S. Committees (chair):

<i>Samarth Bhasin</i>	(Department of Aerospace Engineering, graduated)
<i>John Kucharski</i>	(Department of Aerospace Engineering, graduated)
<i>Kurt Hasslinger</i>	(Department of Aerospace Engineering, graduated)
<i>Yonas Demissie</i>	(Department of Aerospace Engineering, graduated)
<i>Alexander Ortiz</i>	(Department of Aerospace Engineering, graduated)
<i>Rachel Rybarczyk</i>	(Department of Aerospace Engineering, graduated)
<i>Victor Hong</i>	(Department of Aerospace Engineering, graduated)

M. S. Committees (member):

<i>Aharon J. Mims</i>	(Department of Aerospace Engineering)
<i>Andrew Giles</i>	(Department of Aerospace Engineering)
<i>Manasi Palwankar</i>	(Department of Aerospace Engineering)
<i>Amuda Varshini Kamaraj</i>	(Department of Aerospace Engineering)
<i>Rafay Navaid</i>	(Department of Aerospace Engineering)
<i>Scott A. Wong</i>	(Department of Aerospace Engineering)
<i>Joshua Rivera</i>	(Department of Aerospace Engineering)
<i>Muhammad Navaid</i>	(Department of Aerospace Engineering)
<i>Dkruu B. Patel</i>	(Department of Aerospace Engineering)
<i>Amit H. Sangani</i>	(Department of Aerospace Engineering)
<i>Vishal D. Aggarwal</i>	(Department of Aerospace Engineering)
<i>Katherine R. Wagschal</i>	(Department of Aerospace Engineering)
<i>Jeremy O. Stromsoe</i>	(Department of Aerospace Engineering)
<i>Ulas Akgun</i>	(Department of Aerospace Engineering)
<i>Dhruv Patel</i>	(Department of Aerospace Engineering)
<i>Gabriela Sans-Dougllass</i>	(Department of Aerospace Engineering)
<i>Daniel Enriquez</i>	(Department of Aerospace Engineering)
<i>Alexander Popescu</i>	(Department of Aerospace Engineering)
<i>Pranav Borwankar</i>	(Department of Aerospace Engineering)
<i>Alejandrina Nuno</i>	(Department of Aerospace Engineering)
<i>Susan Guyler</i>	(Department of Mathematics)
<i>Horacio Lopez</i>	(Department of Mathematics)
<i>Lourdes Coria</i>	(Department of Mathematics)
<i>Aditya A. Bothate</i>	(Department of Mechanical Engineering)
<i>Onkar Mande</i>	(Department of Mechanical Engineering)
<i>Martin Puterbaugh</i>	(Department of Mechanical Engineering)
<i>Scott J. Felter</i>	(Department of Mechanical Engineering)
<i>Ayman Battikhi</i>	(Department of Mechanical Engineering)
<i>Ryan Contois</i>	(Department of Mechanical Engineering)

<i>William Millar</i>	(Department of Mechanical Engineering)
<i>Ryan Burks</i>	(Department of Mechanical Engineering)
<i>Nathan Reed</i>	(Department of Mechanical Engineering)
<i>Ryan Stampfli</i>	(Department of Mechanical Engineering)
<i>Greg Sawvelle</i>	(Department of Mechanical Engineering)
<i>Toyen Ngyen</i>	(Department of Civil, Construction, and Environmental Engineering)
<i>Nathan Labadie</i>	(Department of Electrical Engineering)
<i>Elias Mireles</i>	(Department of Electrical Engineering)
<i>Joshua Patin</i>	(Department of Electrical Engineering)
<i>Mehak Garg</i>	(Department of Electrical Engineering)
<i>Anup N. Kulkarni</i>	(Department of Electrical Engineering)
<i>Anusha Kalikonda</i>	(Department of Electrical Engineering)
<i>Dave West</i>	(Department of Electrical Engineering)
<i>Vandana Gowda</i>	(Department of Electrical Engineering)
<u>PhD committees:</u>	
<i>Huy Vu</i>	(Department of Mathematics)
<i>Susan Berggren</i>	(Department of Mathematics)
<i>Timothy Paul Johnson</i>	(Department of Structural Engineering, Joint Doctoral Program with UCSD)
<i>Matheus V. Mota Santos</i>	(School of Engineering, University of Limerick, Ireland)

PhD committees (chair):

<i>Rauno Cavallaro</i>	(Department of Aerospace Engineering, graduated)
<i>Enrico Santarpia</i>	(Department of Aerospace Engineering, graduated)

Judge of Students' Poster Presentations

Student Research Symposium, Applied Computational Science and Engineering Student Support (ACSESS)

College of Engineering

Member of the “*Curriculum committee*” [9 years of service]
 Member of the “*Joint Doctoral Program Steering Committee*” [2 years of service - present]
 Secretary of the Faculty meetings [2 years of service]
 Member of the “*Intramural Grants Committee*” [2 years of service]
 Member of the “*International programs committee*”

Aerospace Engineering

Chair of the *faculty search committee* (Fall 2024-Spring 2025)
 Member of the “*Faculty search committee*” [a professor was hired]
 Member of the “*Department chair search committee*” [a chair was hired]
 Member of the “*Faculty search committee*” [a professor was hired]
 Graduate Adviser [Spring 2018]
 Chair of the “*Department curriculum committee*” [2 years of service]
 Vice Chair of the *Aerospace Engineering Department* [1 year of service]

SCIENTIFIC MEETINGS, EDITORIAL WORK, AND EXTERNAL COMMITTEES

Associate Editor:

Advances in Aircraft and Spacecraft Science

Advisory Editor:

Aerotecnica Missili & Spazio (Springer)

Conference Session Organizer:

Advances in Aerospace Structures, ASME SSDM, June **2023**

AIAA SCITECH 2017 “*Challenges in the Design of Joined Wings and Structural Joints*” January **2017**

AIAA SCITECH 2016 “*Challenges in the Design of Joined Wings*” January **2016**, San Diego, California

AIAA SCITECH 2015 “*Challenges in the Design of Joined Wings*” [**two sessions on the topic**] January 5-9, **2015**, in Gaylord Palms and Convention Center, Kissimmee, Florida

Session 11 on “*Beam, Plate and Shell Theories and Computational Models for Laminated Structures*” 16th International Conference on Composite Structures, University of Porto, Faculty of Engineering (FEUP), June 28-30, **2011**

Conference Session Chair:

- Session 11.2. 16th International Conference on Composite Structures, University of Porto, Faculty of Engineering (FEUP), June 28-30, **2011**
- Session 46. 54th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference, Boston, Massachusetts, 8-11 April **2013**
- Session 13-2: Fluid-Structure Interaction II. ASME 2013 Fluids Engineering Summer Conference, Incline Village, Nevada, July 7-11, **2013**
- Session STR-02: Beams & Plates. AIAA SCITECH 2014, National Harbor, Maryland, January 13-17, **2014**
- AIAA SCITECH 2015, “Challenges in the Design of Joined Wings I and II”, **2015**
- Variational Analysis and Applications, Erice, August 28-September 5, **2015**
- AIAA SCITECH 2016, “Challenges in the Design of Joined Wings”, **2016**
- AIAA SCITECH 2017 “*Challenges in the Design of Joined Wings and Structural Joints*” January **2017**
- AIAA SCITECH 2018 “*Aircraft Structural Design, Test and Analysis*” January **2018**

- AIAA SCITECH 2019 “*Composite Interlaminar Enhancement Methods and Modeling IP*” January **2019**
- AIAA SCITECH 2020 “*Innovative Concepts in Aircraft Structures*” January **2020**
- AIAA SCITECH 2022 “*Novel Sloshing and other Analysis Techniques for Future Flight Vehicle Certification*” January **2022**
- AIAA SCITECH 2023 “*Computer Methods, Algorithms for HPC, Techniques, and Reduced Order Modeling*” January **2023**
- AIAA SCITECH 2023 “*Dr. Dewey Hodges Memorial Session IP*” January **2023**
- Advances in Aerospace Structures, ASME SSDM, June **2023**
- AIAA SCITECH 2024 “*Nonlinear Dynamics, Flexible Multibody Dynamics, Contact/Constraint Modeling*” January **2024**
- Advances in Aerospace Structures, ASME SSDM, April **2024**

Organization of the Unmanned Aircraft Systems group at San Diego State University

The team is made of a total of four professors (including Luciano Demasi) with expertise in nonlinear aeroelasticity, antennas, sensors, and nonlinear dynamics. The team is the recipients of numerous NSF grants, 11 patents on sensors and an NSF Career Award (for details please see www.UASandiego.com).

AIAA Structures Technical Committee

Status: member actively involved in the organization

AIAA Structural Dynamics Technical Committee

Status: member actively involved in the organization

AIAA San Diego Chapter: Vice Chair Technical

June 2024-present

Duties: Have cognizance over all technical activities. Arrange and promote an annual “Technical Lecture”. Encourage and assist members in obtaining positions on the AIAA Technical Committees.

M.S. Committee (Other Institutions)

<u>M. S. Committee:</u> Francesco Grani	(Dept. of Aerospace Eng., La Sapeinza, Rome, Italy)
<u>M. S. Committee:</u> Alberto Varello	(Dept. of Aerospace Eng., Politecnico di Torino, Italy)
<u>M. S. Committee:</u> Luca Cigolini	(Dept. of Aerospace Eng., Politecnico di Torino, Italy)
<u>M. S. Committee:</u> Fiorenzo A. Fazzolari	(Dept. of Aerospace Eng., Politecnico di Torino, Italy)
<u>M. S. Committee:</u> Andrea Passariello	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Antonio Dipace	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Enrico Santarpia	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Alessandro Boccadifuoco	(Dept. of Aerospace Eng., Università di Pisa, Italy)

<u>M. S. Committee:</u> Federica Bertuccelli	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Andrea Iannelli	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Massimiliano Nardini	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Rocco Bombardieri	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Pellegrino D'Addio	(Dept. of Aerospace Eng., Università di Pisa, Italy)
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<u>M. S. Committee:</u> Federico Vannucci	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Giacomo Biagini	(Dept. of Aerospace Eng., Università di Pisa, Italy)
<u>M. S. Committee:</u> Simone Silvani	(Dept. of Aerospace Eng., Università Roma3, Italy)
<u>M. S. Committee:</u> Ilir Deda	(Dept. of Aerospace Eng., Università Roma3, Italy)
<u>M. S. Committee:</u> Alessandro Olivieri	(Dept. of Aerospace Eng., Università Roma3, Italy)
<u>M. S. Committee:</u> Nick Teunisse	(Dept. of Mechanical Eng., TU Delft)
<u>M. S. Committee:</u> Pepijn Kessels	(Dept. of Aerospace Eng., TU Delft)
<u>M. S. Committee:</u> Govert Harlaar	(Dept. of Aerospace Eng., TU Delft)

Co-Advised PhD Students (Other Institutions)

Lorenzo Russo (Dept. Ingegneria Industriale - Università degli Studi di Napoli Federico II)

Referee for 35 Peer Reviewed Journals:

1. *Advances in Aircraft and Spacecraft Science*
2. *Aerotecnica Missili & Spazio*
3. *AIAA Journal*
4. *Ain Shams Engineering Journal*
5. *Applied Mathematics and Computation*
6. *Applied Mathematical Modelling*
7. *Chinese Journal of Aeronautics*
8. *Composites Part A*
9. *Composites Part B*
10. *Composite Structures*
11. *Computers Materials and Continua*
12. *Computers and Structures*
13. *Energies*
14. *Engineering Computations*
15. *Engineering Structures*
16. *European Journal of Mechanics A/Solids*
17. *Finite Element Analysis Design*
18. *International Journal of Mechanical Sciences*
19. *International Journal of Solids and Structures*
20. *Journal of Aeroelasticity and Structural Dynamics*
21. *Journal of Aerospace Engineering*
22. *Journal of Aircraft*
23. *Journal of Applied Mechanics*
24. *Journal of Composite Materials*
25. *Journal of Energy Research*
26. *Journal of Engineering Mechanics*
27. *Journal of Guidance Control and Dynamics*

28. *Journal of Intelligent Material Systems and Structures*
29. *Journal of Sound and Vibration*
30. *Journal of Zhejiang University-SCIENCE A*
31. *Mathematics and Mechanics of Solids*
32. *Meccanica*
33. *Mechanics of Advanced Materials and Structures*
34. *Thin Wall Structures*
35. *Wind Energy*

PROFESSIONAL ASSOCIATIONS

American Institute of Aeronautics and Astronautics (**AIAA**): **Lifetime Associate Fellow**

Association for Unmanned Vehicle Systems International (**AUVSI**): **member**

American Society of Mechanical Engineers (ASME): member