Resume

Daniella E. Raveh

Faculty of Aerospace Engineering
Technion - Israel Institute of Technology
Haifa 32000, Israel

Personal

ID number	022548317
Date and place of birth:	November 29, 1967, Netanya, Israel
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Academic Degrees

1999	Ph.D., Faculty of Aerospace Engineering, Technion – I.I.T.
1995	M.Sc., Faculty of Aerospace Engineering, Technion – I.I.T.
1992	B.Sc. (Cum Laude), Faculty of Aeronautical Engineering, Technion – I.I.T.

Academic Appointments

2012 – present	Associate Professor, Faculty of Aerospace engineering, Technion – I.I.T.
2001 – 2012	Senior Lecturer, Faculty of Aerospace engineering, Technion – I.I.T.
1992 – 1999	Teaching Assistant, Faculty of Aerospace Engineering, Technion – I.I.T.

Academic Appointments Abroad

2015– 2016	Distinguished Visiting Fellow of the Royal Academy of Engineering, University of Southampton, UK
2009 – 2010	Adjunct Associate Professor, Department of Mechanical Engineering and Material Science, Duke University, Durham, North Carolina
2007 – 2009	Visiting Scholar, Department of Mechanical Engineering and Material Science, Duke University, Durham, North Carolina
2000 – 2001	Research Engineer II, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, Georgia
1999 – 2000	Post-Doctoral Fellow, School of Aerospace Engineering, Georgia Institute of Technology, Atlanta, Georgia

Research Interests

Aeroelasticity

Teaching Experience

2001 – present Faculty of Aerospace Engineering, Technion – I.I.T., Haifa, Israel. Courses:
- Aeroelasticity (Undergraduate and Graduate)
- Structural Dynamics (Undergraduate and Graduate)
- Aircraft Structural Design (Undergraduate and Graduate)
- Aeroelasticity Seminar (Undergraduate)
- Flight Mechanics 1 (Undergraduate)
- Introduction to Aerospace Engineering (Undergraduate)
- Solid Mechanics 2 (Undergraduate)
- Solid Mechanics (Undergraduate)

2007 –2009 Visiting Scholar, Department of Mechanical Engineering and Material Science, Duke University, Durham, NC. Courses:
- Aircraft Performance (Undergraduate)
- Mechanics of Solids (Undergraduate)

1992 – 1999 Teaching Assistant, Faculty of Aeronautical Engineering, Technion – I.I.T., Haifa, Israel. Courses:
- Vibrations of Aeronautical Structures (Undergraduate)
- Dynamic Systems (Undergraduate)
- Structures Laboratory (Undergraduate)

Technion Activities

2014 – 2017 Member of the Computers and Information Steering Committee

2016 – present Member of the Technion Student-Faculty Committee

2019 – present Senate Member

Departamental Activities

2005 – 2007	Member of the Computer Committee
2005 – 2007	Member of the Academic Program Committee
2009 – 2018	Candidate Recruitment Coordinator
2009 – present	Member of the Academic Program Committee
2010 – 2011	Member of the Graduate Studies Committee
2015 – present	Member of the Graduate Studies Committee
2017 – present	Member of the Undergraduate Studies Committee
2015 – 2017	Undergraduate Students Coordinator
2016 – present	Silon Excellence Program Coordinator

Public Professional Activities

Editorial Board Service

2010– 2016	Associate Editor, Journal of Fluids and Structures
2017– present	Associate Editor, AIAA Journal

Reviewer Work

2000 – present	AIAA Journal
2000 – present	Journal of Aircraft
2002 – present	Journal of Fluids and Structures
2012 – present	Journal of Aerospace Engineering
2015 – present	Fluid Dynamics Research Journal

Professional Service

2011– 2016	Member of the AIAA Structural Dynamics Technical Committee

Membership in Professional Societies

American Institute of Aeronautics and Astronautics (AIAA) Associate Fellow

Awards And Honors

2018	Yanai Prize for Excellence in Teaching, academic year 2017-18
2017	Outstanding Teacher, winter term, academic year 2016-17
2016	Neev-Ya Paper Award at the 56th Israeli Conference on Aerospace Sciences
2010	Hanin Research Award
2005	Muriel and David Jacknow Award for Excellence in Teaching
1998	Wolf Foundation Academic Distinction Award, academic year 1997-98
1997	Amelia Earhart Fellowship Award, academic year 1997-98
1997	Israel's Parliament Academic Distinction Award, academic year 1997
1997	Meriam and Aaron Gutwirth Memorial Fellowship, academic year 1996-97
1995	Excellent Teaching Assistant Award, Faculty of Aerospace Engineering, academic year 1994-95

Graduate Students

Completed PhD Theses

Michael Iovnovich	2014. *A Study of the Shock-buffet Phenomenon and Related Unsteady Aerodynamics on 2D and 3D Wings.*
Sonya Tiomkin	2018. *Membrane Wing Gust Response.*

Completed MSc Theses

Avi Zaide	2007. *CFD-Based Time-Domain Aerodynamic Gust-Response Model.*
Alexander Shousterman	2007. *Aeroelastic Loads on Rotor Blades of Jet Engines and Gas Turbines.*
Yaniv Cohen	2009. *Aero-Structural Investigation of an Inflatable Wing.*
Sonya Tiomkin	2011. *Analytical and numerical study of a 2D membrane wing in subsonic flow.* Principal advisor - Prof. Rimon Arieli
Ariel Drachinsky	January 2015. *Limit-cycle Oscillations of a Pretensed High Aspect-ratio Membrane.*

Completed Msc Theses

Leeran Yagil	2016. *Elastic Deformations Control of Highly Flexible Aircraft in Trimmed Flight and Gust Encounter.* Co-advisor - Prof. Moshe Idan
Etay Kantor	2018. *Aeroelastic Study of Highly Flexible Wing Using a Nonlinear Structural Model*
Kobi Cohen	2018. *Comparison of Laboratory Testing Techniques for Airborne Store's Dynamic Response to In-Flight Environmental Conditions*
Matan Argaman	2018. *Computational Fluid Dynamics Based Aeroelastic System Identification and Flutter Prediction*
Itzhak Mizrahi	2018. *An Investigation of Wing Elasticity effects on Store Separation*
Daniel Kariv	2019. *Dynamic Response of an Eastic Aircraft to Store Ejection*
Tzlil Nahom	2019. *Experimental Investigation of a Methodology for Flutter Speed Estimation from Acceleration Measurement Without Active Excitation*
Dima Tihomirov	2019. *Nonlinear Aerodynamic Effects on Static Aeroelasticity of Flexible Missiles*

Phd Theses In Progress

Lior Poplingher	2019. *Fluid-Structure Interaction in Finite Wings in the Presence of Shock Buffet .*
Ariel Drachinsky	2019. *Modal Rotation: A Modal Method for Large Deformations.*

Msc Theses In Progress

Yuri Kaluzhny	2016. *A Study of Aeroelastic Wing Shaping for Optimal Aircraft Performance*
Or Avin	2017 *Benchmark of a Very Flexible Wing in Subsonic Speeds*
Ramya Raman	2018. *Aeroelastic System Data Analysis Using the Hilbert-Huang Transform*
Michael Simbuerger	2018. *Aeroelastic Deformation Control Based on Fiber Optic Sensors*
Miko Keren-Rattner	2018. *Fiber-Optics-Based Aeroelastic Shape Sensing*

Post-doctoral Associates

Rauno Cavalaro	2015 – 2016.
Wrik Mallik	2017 – present.
Sonya Tiomkin	2019 – present.

Research Grants

Compatitive

Title	Agency	Period	Amount
Simulation and Wind-tunnel Experiments of Nonlinear Fluid-Structure Interaction PI†: D. Raveh, API‡: E. Dowell, API‡: J. Thomas	US-Israel Binational Science Foundation	9/2013-8/2017	$146,400

Industrial And Other Sources

Title	Agency	Period	Amount
Efficient Nonlinear Aerodynamic Models for Aeroelastic Design	Israeli MoD	10/2001-3/2003	$30,166
Development of a Tool Set for Evaluation of Airloads on an Elastic Wing	Israeli MoD	8/2002-4/2003	$31,250
Active Aeroelastic Aircraft Structure PI†: M. Karpel, API‡: D. Raveh	European Community	4/2003-3/2005	EU 213,333
Aeroelastic Optimization - Gust Response	Israeli MoD	10/2003-3/2005	$56,180
Unsteady Maneuver Load Analysis	Israeli MoD	10/2004-3/2006	$50,000
CFD-Based Time-Domain Aeroservoelastic Gust Response Model	Rosenthal Aerospace Eng. Research Fund	3/2005-6/2006	$4,000
CFD-Based Aeroelastic Gust Response Analysis	Fohrman Aerospace Structues Research Fund	3/2006-2/2007	$4,000
Maneuver Load Analysis	Israeli MoD	5/2006-4/2007	$4,000
Inflated Wings Structural Aeroelastic Analysis Methodology	Tark Aerospace Structures Research Fund	2/2010-1/2011	$10,350
Shock-buffet and its interaction with control surface vibrations	Israeli MoD	7/2010-6/2011	$25,000

† Principal Investigator

‡ Additional Principal Investigator

Research Grants

Title	Agency	Period	Amount
Technology development for CFD-based fully dynamical aeroelastic simulation of platforms with external stores	Israeli MoD	7/2011-6/2012	$88,000
Technology development for CFD-based fully dynamical aeroelastic simulation of platforms with external stores - Cont.	Israeli MoD	6/2012-5/2013	$44,000
Development of computational tools for performance analysis of elastic underwater propellor	Israeli MoD	6/2012-8/2013	₪300,000
Development of computational tools for performance analysis of elastic underwater propellor - Cont.	Israeli MoD	9/2013-8/2014	₪150,000
Aeroelastic Gust Response in High Angles of Attack	Tark Aerospace Structures Research Fund	2/2014-1/2015	$15,000
Ejection loads and store separation	Israeli MoD	7/2015-6/2016	₪200,000
Load Control in Elastic Wings for Overall Aircraft Efficiency	Tark Aerospace Structures Research Fund	2/2016-1/2017	$15,000
Identification of Aeroelastic System Using Optical Sensing	Israeli MoD	8/2016-7/2017	₪300,000
Identification of Aeroelastic System Using Optical Sensing	Israeli MoD	8/2017-3/2018	₪200,000
Experimental Benchmark of a Highly Flexible Wing	Tark Aerospace Structures Research Fund	3/2018-2/2019	$15,000
Damage Identification in a Wing Structure Using Optical Sensing	Israeli MoD	3/2018-2/2019	₪300,000
Aeroelastic Sensing and Control Using Optical Fibers	ASSURE, Israeli MoT	9/2018-8/2020	₪500,000

Research Grants

Title	Agency	Period	Amount
Aeroelastic Prediction and Validation	The PAZY Foundation	10/2018-10/2022	₪800,000
Active Aeroelastic Aircraft Testbed	Israeli MoD	12/2018-11/2019	₪230,000
Active Aeroelastic Aircraft Testbed	Israeli MoD	12/2019-11/2020	₪250,000

Publications

Theses

M.Sc. "Modal Analysis of Space Structures by Substructuring", Faculty of Aerospace Engineering, Technion – I.I.T., 1995. Advisor: Prof. M. Karpel.

Ph.D. "Integrated Aero-Structural Design of Maneuvering Flexible Flight Vehicles", Faculty of Aerospace Engineering, Technion – I.I.T., 1999. Advisor: Prof. M. Karpel.

Journal Publications

Published Papers:

1. M. Karpel, D.E. Raveh and S. Ricci, "Ground Modal Tests of Space-Structure Components Using Boundary Masses," *AIAA Journal of Spacecraft and Rockets*, Vol. 33, No. 2, 1996, pp. 272–277.

2. M. Karpel and D.E. Raveh, "Fictitious Mass Element in Structural Dynamics," *AIAA Journal*, Vol. 34, No. 3, 1996, pp. 607–613.

3. D.E. Raveh and M. Karpel, "Structural Optimization of Flight Vehicles with Computational-Fluid-Dynamics-Based Maneuver Loads,"*AIAA Journal of Aircraft*, Vol. 36, No. 6, 1999, pp. 1007–1015.

4. D.E. Raveh, M. Karpel, and S. Yaniv, "Non-Linear Design Loads for Maneuvering Elastic Aircraft," *AIAA Journal of Aircraft*, Vol. 37, No. 2, 2000, pp. 313–318.

5. D.E. Raveh, Y. Levy, and M. Karpel, "Structural Optimization Using Computational Aerodynamics," *AIAA Journal*, Vol. 38, No. 10, 2000, pp. 1974–1982.

6. D.E. Raveh, Y. Levy, and M. Karpel, "Efficient Aeroelastic Analysis Using Computational Unsteady Aerodynamics," *AIAA Journal of Aircraft*, Vol. 38, No. 3, 2001, pp. 547–556.

7. D. Raveh, "Reduced Order Models for Nonlinear Unsteady Aerodynamics," *AIAA Journal*, vol. 39, No. 8, 2001, pp. 1417–1429.

8. P.S. Zink, D.N. Mavris, and D.E. Raveh, "Maneuver Trim Optimization Techniques for Active Aeroelastic Wings," *AIAA Journal of Aircraft*, Vol. 38, No. 6, 2001, pp. 1139–1146.

9. P.S. Zink, D.E. Raveh, and D.N. Mavris, "Integrated Trim and Structural Design Process for Active Aeroelastic Wing Technology,"*AIAA Journal of Aircraft*, Vol. 40, No. 3, 2003, pp. 523–531.

10. P.S. Zink, D.E. Raveh, and D.N. Mavris, "Robust Structural Design of an Active Aeroelastic Wing with Maneuver Load Inaccuracies," *AIAA Journal of Aircraft*, Vol. 41, No. 3, 2004, pp. 585–593.

11. G.W. Reich, D.E. Raveh, and P.S. Zink, "Application of Active-Aeroelastic-Wing Technology to a Joined-Wing Sensorcraft," *AIAA Journal of Aircraft*, Vol. 41, No. 3, 2004, pp. 594–602.

12. D.E. Raveh, "Identification of Computational-Fluid-Dynamics Based Unsteady Aerodynamic Models for Aeroelastic Analysis," *AIAA Journal of Aircraft*, Vol. 41, No. 3, 2004, pp. 620–632.

13. D.E. Raveh, "Computational-Fluid-Dynamics-Based Aeroelastic Analysis and Structural Design Optimization - A Researcher's Perspective," Invited paper, *Computer Methods in Applied Mechanics and Engineering, special edition on Structural and Design Optimization*, Vol. 194, Issues 30-33, 2005, pp. 3453–3471.

14. A. Zaide and D.E. Raveh, "Numerical Simulation and Reduced-Order Modeling of Airfoil Gust Response," *AIAA Journal*, Vol. 44, No. 8, 2006, pp. 1826–1834.

15. D.E. Raveh, "CFD-Based Models of Aerodynamic Gust Response," *Journal of Aircraft*, Vol. 44, No. 3, 2007, pp. 888–897.

16. D.E. Raveh, "Maneuver Load Analysis of Overdetermined Trim Systems," *Journal of Aircraft*, Vol. 45, No. 1, 2008, pp. 119-129.

17. D.E. Raveh, "Numerical Study of an Oscillating Airfoil in Transonic Buffeting Flows," *AIAA Journal*, Vol. 47, No. 3, 2009, pp 505–515.

18. D.E. Raveh, "CFD-Based Gust Response Analysis of Free Elastic Aircraft," *Journal of Aeroelasticity and Structural Dynamics*, Vol. 2, No. 1, 2010, pp. 23–34.

19. D.E. Raveh and E.H. Dowell "Frequency Lock-In Phenomenon in Oscillating Airfoils in Buffeting Flows," *Journal of Fluids and Structures*, Vol. 27, 2011, pp. 89–104.

20. Y.C. Gal-Rom Cohen and D.E. Raveh "A Simplified Aero-Structural Model for Inflated Wings," *AIAA Journal*, Vol. 49, No. 6, 2011, pp. 1180–1190.

21. D.E. Raveh "Gust Response Analysis of Free Elastic Aircraft in the Transonic Flight Regime," *Journal of Aircraft*, Vol. 48, No. 4, 2011, pp. 1204–1211.

22. M. Iovnovich and D.E. Raveh "Transonic Unsteady Aerodynamics in the Vicinity of Shock-buffet Instability," *Journal of Fluids and Structures*, Vol. 29, 2012, pp. 131–142.

23. M. Iovnovich and D.E. Raveh "Reynolds-averaged Navier-Stokes Study of the Shock-buffet Instability Mechanism," *AIAA Journal*, Vol. 50, No. 4, 2012, pp. 880–890.

24. D.E. Raveh, and E.H. Dowell, "Aeroelastic Responses of Spring-suspended Airfoil Systems in Transonic Buffeting Flows," *AIAA Journal*, Vol. 52, No. 5, 2014, pp. 926–934.

25. M. Iovnovich and D.E. Raveh "Numerical Study of Shock-buffet on Three-Dimensional Wings," *AIAA Journal*, Vol. 53, No. 2, 2015, pp. 449–463.

26. A. Drachinsky, and D.E. Raveh, "Limit-cycle Oscillations of a Pre-tensed Membrane Strip," *Journal of Fluids and Structures*, Vol. 60, 2016, pp.1–22.

27. M. Iovnovich, D.E. Raveh, M. Adar, and D. Michaels, "Computational Study of Transonic Limit Cycle Oscillation Phenomenon on the F-16 Fighter Aircraft," *Journal of Aircraft*, Vol. 54, No. 2, 2017, pp. 783–793.

28. S. Tiomkin, and D.E. Raveh, "On the stability of two-dimensional membrane wings," *Journal of Fluids and Structures*, Vol. 71, 2017, pp. 143–163.

29. L. Yagil, D.E. Raveh, and M. Idan, "Elastic Deformations Control of Highly Flexible Aircraft in Trimmed Flight and Gust Encounter," *Journal of Aircraft*, Vol. 55, No. 2, 2018, pp. 829–840.

30. D.E. Raveh, Y. Mor-Yossef, and Y. Levy, "Analyses for the Second Aeroelastic Prediction Workshop Using the EZNSS Code," *AIAA Journal*, Vol. 56, No. 1, 2018, pp. 387–402.

31. M. Franciolini, A. Da Ronch, J. Drofelnik, D.E. Raveh, and A. Crivellini, "An Efficient Infinite-swept Wing Solver for Steady and Unsteady Flow Problems," *Aerospace Science and Technology*,Vol. 72, 2018, pp. 217-229.

32. M. Iovnovich, T. Nahom, M. Presman, D. Avsaid, T. Braier, and D.E. Raveh "Validation of Advanced Flutter Flight Test Techniques and Flutter Boundary Prediction Methods," *Journal of Aircraft*, Vol. 55, No. 5, 2018, pp. 1877–1889.

33. M. Argaman and D.E. Raveh, "Multi-Output Autoregressive Aeroelastic System Identification and Flutter Prediction," *Journal of Aircraft*, Vol. 56, No. 1, 2019, pp. 30–42.

34. F. Roizner, D.E. Raveh, and M. Karpel "Safe Flutter Tests Using Parametric Flutter Margins," *Journal of Aircraft*, Vol. 56, No. 1, 2019, pp. 228–238.

35. I. Mizrahi, and D.E. Raveh, "Wing Elasticity Effects on Store Separation," *Journal of Aircraft*, Vol. 50, No. 3, 2019, pp. 1231–1249.

36. E. Kantor, D.E. Raveh, and R. Cavallaro, "Nonlinear-Structural-Nonlinear-Aerodynamic Model for Static Aeroelastic Problems," *AIAA Journal*, Vol. 57, No. 5, 2019, pp. 2158–2170.

37. T. Nahom, D.E. Raveh, and M. Iovnovich, "Wind-Tunnel Study of the ARMA Flutter Prediction Method," *Journal of Aircraft*, Vol. 56, No. 4, 2019, pp. 1441–1454.

38. L. Poplingher, D.E. Raveh, and E.H. Dowell "Modal Analysis of Transonic Shock Buffet on 2D Airfoil," *AIAA Journal*, Vol. 57, No. 7, 2019, pp. 2851–2866.

39. K. Cohen and D.E. Raveh, "Acoustic Testing Techniques for Replicating In-flight Dynamic Loads," *The Journal of the Acoustical Society of America*, Vol. 145, No. 5, 2019, pp. 2851–2860.

40. W. Mallik, and D.E. Raveh, "Gust Response at High Angles of Attack," *AIAA Journal*, Vol. 57, No. 8, 2019, pp. 3250–3260.

41. S. Tiomkin, and D.E. Raveh, "On Membrane-wing Stability in Laminar Flow," *Journal of Fluids and Structures*, Vol. 91, 2019, pp. 1–17.

42. M. Freydin, M. Keren Rattner, D.E. Raveh, R. Davidi, M. Tur, and I. Kressel, "Fiber-Optics-Based Aeroelastic Shape Sensing", *AIAA Journal*, 2019. https://doi.org/10.2514/1.J057944.

43. S. Tiomkin and D.E. Raveh, "Membrane Wing Aeroelasticity," Invited review for Progress in Aerospace Sciences, 2020.

Submitted Papers:

1. A. Drachinsky, and D.E. Raveh, "Modal Rotations: A Modal-based Method for Large Structural Deformations," submitted for publication in the *AIAA Journal*.

2. D. Kariv and D.E. Raveh, "Dynamic Response of an Elastic Aircraft to Ripple Store Ejection," submitted for publication in the *Journal of Aircraft*.

3. W. Mallik, and D.E. Raveh, "Modal Analysis of Light Dynamic Stall on a Pitching Airfoil," submitted for publication in the *Journal of Fluids and Structures*.

Refereed Papers in Conference Proceedings

1. M. Karpel, D.E. Raveh and S. Ricci, "Ground Vibration Tests of Space-Structure Components Using Boundary Masses," *45th International Astronautical Congress*, Jerusalem, Israel, October 1994.

2. M. Karpel and D.E. Raveh, "Fictitious Mass Element in Structural Dynamics," *36th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, New Orleans, LA, April 1995, pp. 1543–1552.

3. D.E. Raveh, M. Karpel, and S. Yaniv, "Non-Linear Design Loads for Maneuvering Elastic Aircraft," *38th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 1998, pp. 150–160.

4. D.E. Raveh and M. Karpel, "Structural Optimization of Flight Vehicles with Non-Linear Aerodynamic Loads," *7th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization*, St. Louis, MO, September 1998, pp. 967-977.

5. D.E. Raveh, Y. Levy, and M. Karpel, "Integration of structural Optimization Schemes with Computational Aerodynamics," *39th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 1999, pp. 245-258.

6. D.E. Raveh, Y. Levy, and M. Karpel, "Structural Optimization Using Computational Aerodynamics," *CEAS/AIAA/ICASE/NASA Langley International Forum on Aeroelasticity and Structural Dynamics*, Williamsburg, VA, June 1999, pp. 469–481.

7. D.E. Raveh, Y. Levy, and M. Karpel, "Aircraft Aeroelastic Analysis and Design Using CFD-Based Unsteady Loads" *41st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Atlanta, GA, April 2000, pp. 1–11.

8. P.S. Zink, D.N. Mavris, and D.E. Raveh, "Maneuver Trim Optimization Techniques for Active Aeroelastic Wings," *41st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Atlanta, GA, April 2000, pp. 1-11.

9. P.S. Zink, D.E. Raveh, and D.N. Mavris, "Robust Structural Design for Active Aeroelastic Wing with Aerodynamic Uncertainties," *41st AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Atlanta, GA, April 2000, pp. 1-12.

10. D.E. Raveh "Reduced Order Models for Nonlinear Unsteady Aerodynamics," *8th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization*, Long Beach, CA, September 2000, pp. 1–11.

11. P.S. Zink, D.N. Mavris, and D.E. Raveh, "Integrated Structural/Trim Optimization for Active Aeroelastic Wing Technology," *8th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization*, Long Beach, CA, September 2000, pp. 1-11.

12. D.E. Raveh, and D.N. Mavris,"Reduced-Order Models Based on CFD Impulse and Step Responses," *42nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Seattle, WA, April 2001, pp. 1–13.

13. P.S. Zink, D.E. Raveh, and D.N. Mavris, "An Integrated Trim and Structural Design Process for Active Aeroelastic Wing Technology," *42nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Seattle, WA, April 2001, pp. 1-11.

14. W. Silva, D. Raveh, "Development of Unsteady Aerodynamic State-Space Models from CFD-Based Pulse Responses," *42nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Seattle, WA, April 2001, pp. 1-9.

15. W. Silva, P. Beran, C. Cesnik, R. Guendel, A. Kurdila, R. Prazenica, L. Librescu, P. Marzocca, D.E. Raveh, "Reduced-Order Modeling: Cooperative Research and Development at the NASA Langley Research Center," *CEAS/AIAA/ICASE/NASA Langley International Forum on Aeroelasticity and Structural Dynamics*, Madrid, Spain, June 2001.

16. D.E. Raveh and P.S. Zink, "Structural Design of an Active Aeroelastic Wing Concept with Maneuver Loads Uncertainties," *42nd Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2002.

17. GW.. Reich, D.E. Raveh, and P.S. Zink, "Application of Active Aeroelastic Wing Technology to a Joined-Wing Sensorcraft," *43nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Denver, CO, April 2002, pp. 1-9.

18. P.S. Zink, D.E. Raveh, and D.N. Mavris, "Robust Structural Design of an Active Aeroelastic Wing with Maneuver Load Uncertainty," *9th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization*, Atlanta, GA, September 2002, pp. 1-13.

19. D.E. Raveh, "Identification of CFD-Based Unsteady Aerodynamic Models for Aeroelastic Analysis,"*44th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Norfolk, VA, April 2003, pp. 1–12.

20. D.E. Raveh, and Y. Levy,"CFD-Based Aeroelastic Response of an Active Aeroelastic Wing," *45th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Palm Springs, CA, April 2004, pp. 1–10.

21. A. Zaide, and D.E. Raveh, "Numerical Simulation and Reduced-Order Modeling of Airfoil Gust Response," *17th AIAA Computational Fluid Dynamics (CFD) Conference*, Toronto, Canada, June 2005, pp. 1–16.

22. D.E. Raveh, "CFD-Based Models of Aerodynamic Gust Response,"*47th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Newport, RI, May 2006, pp. 1–18.

23. D.E. Raveh "CFD-Based Maneuver Load Analysis of Over-Determined Trim Systems," *47th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2007.

24. R. Wislizky and D.E. Raveh "Airfoil Gust Response in Turbulent Flow," *47th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2007.

25. D.E. Raveh "Maneuver Load Analysis of Over-Determined Trim Systems Using a CFD Method,"*48th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Honolulu, HI, April 2007, pp. 1–23.

26. D.E. Raveh "A Numerical Study of an Oscillating Airfoil in Flows With Large Shock Wave Oscillations," *49th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Schaumburg, IL, April 2008, pp. 1–19.

27. Y. Gal-Rom Cohen and D.E. Raveh "A Simplified Aero-Structural Model for Inflated Wings," *49th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Schaumburg, IL, April 2008, pp. 1–18.

28. D.E. Raveh "CFD-Based Gust Response of Free Elastic Aircraft," *50th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Palm Springs, CA, May 2009, pp. 1–16.

29. D.E. Raveh "Airfoil Unsteady Aeroelastic Responses in Buffeting Transonic Flows," *50th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Palm Springs, CA, May 2009, pp. 1–15.

30. D.E. Raveh and E.H. Dowell "Frequency Lock-In Phenomenon in Oscillating Airfoils in Buffeting Transonic Flows," *International Forum on Aeroelasticity and Structural Dynamics Conference*, Seattle, WA, June 2009, pp. 1–19.

31. D.E. Raveh and E.H. Dowell "Aeroelastic Response of an Airfoil in Buffeting Transonic Flows," *International Forum on Aeroelasticity and Structural Dynamics Conference*, Seattle, WA, June 2009, pp. 1–18.

32. D.E. Raveh "Gust Response Analysis of Free Elastic Aircraft in the Transonic Flight Regime," *51th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Orlando, FL, April 2010, pp. 1–14.

33. Y.C. Gal-Rom and D.E. Raveh "Analytical Failure Criteria of an Inflated Wing," *51th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Orlando, FL, April 2010, pp. 1–15.

34. M. Karpel, D.E. Raveh, and A. Shousterman "Gust Loads for Aircraft Design with Nonlinear Aerodynamics", *51st Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2011.

35. M. Iovnovich and D.E. Raveh "Reynolds-averaged Navier-Stokes Study of the Shock-buffet Instability Mechanism," *52nd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Denver, CO, April 2011, pp. 1–29.

36. M. Iovnovich and D.E. Raveh "Transonic Unsteady Aerodynamics in the Vicinity of Shock-buffet Instability," *International Forum on Aeroelasticity and Structural Dynamics Conference*, Paris, France, June 2011, pp. 1–18.

37. M. Karpel, D.E. Raveh, A. Shousterman, M. Reyes, H. Climent "Dynamic Gust Loads with Nonlinear Aerodynamic Corrections," *International Forum on Aeroelasticity and Structural Dynamics Conference*, Paris, France, June 2011, pp. 1–18.

38. S. Tiomkin, D.E. Raveh, and R. Arieli "Parametric Study of a Two-dimensional Membrane Wing in Viscous Laminar Flow", *29th AIAA Applied Aerodynamics Conference*, Honolulu, HI, June 2011, pp. 1–23.

39. D.E. Raveh "Frequency Lock-in and Limit-cycle Oscillation Phenomena in Transonic Aeroelastic Systems," *23rd James H. Belfer Memorial Symposium on Structural Dynamics Systems*, Faculty of Mechanical Engineering, Technion, February 2012.

40. D.E. Raveh and E.H. Dowell "Aeroelastic Response of Spring-suspended Airfoil Systems in Transonic Buffeting Flows," *53rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Honolulu, HI, April 2012, pp. 1–18.

41. M. Iovnovich and D.E. Raveh "3D and Finite-wing Effects on the Shock-buffet Instability Mechanism," *53rd AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Honolulu, HI, April 2012, pp. 1–19.

42. D.E. Raveh, W. Su, and C.E.S. Cesnik "Gust Response Analysis of a Very Flexible Aircraft with Different Fidelity Aerodynamics," *10th World Congress on Computational Mechanics*, Sao Paulo, Brazil, July 2012.

43. D.E. Raveh, Y. Mor Yossef, and Y. Levy "Flow Simulations for the First Aeroelastic Prediction Workshop Using the EZNSS Code," *51st Aerospace Sciences Meeting*, Grapevine, TX, January 7-10 2013.

44. S. Tiomkin and D.E. Raveh "Membrane Wing Gust Response in Low Reynolds Numbers," *54th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Boston, MA, April 2013, pp. 1–11.

45. D.E. Raveh "Aerodynamic Gust Response in High Angles of Attack," *54th AIAA/ASME /ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference*, Boston, MA, April 2013, pp. 1–10.

46. A.-S. Sens and D.E. Raveh "Comparison of aeroelastic solutions on the HIRENASD model," *International Forum on Aeroelasticity and Structural Dynamics*, Bristol, UK, June 2013.

47. D.E. Raveh and E.H. Dowell "Aeroelastic Limit Cycle Oscillations in Transonic Buffeting Flows," *5th Bifurcations and Instabilities in Fluid Dynamics Conference*, Haifa, Israel, July 2013.

48. M. Iovnovich and D.E. Raveh "Transonic Shock-buffet Instability of 3D Wings," *12th US National Congress on Computational Mechanics*, Raleigh, NC, July 2013.

49. D. Kariv, and I Mizrahi, and D.E. Raveh "Numerical and Experimental Study of a Fluttering Membrane Strip," 54th Israel Annual Conference on Aerospace Sciences, Tel-Aviv, Israel, February 2014.

50. M. Iovnovich, D. Michaels, M. Adar, and D.E. Raveh "Reynolds-Averaged Navier-Stokes Study of the Transonic Limit Cycle Oscillation Phenomenon on the F-16 Fighter Aircraft," 54th Israel Annual Conference on Aerospace Sciences, Tel-Aviv, Israel, February 2014.

51. Y. Levy, and D.E. Raveh "Aeroelastic CFD Analysis of a Rotating Propeller," 54th Israel Annual Conference on Aerospace Sciences, Tel-Aviv, Israel, February 2014.

52. M. Iovnovich, and D.E. Raveh "Computational Study of Shock-Buffet on 3D Wings," 54th Israel Annual Conference on Aerospace Sciences, Tel-Aviv, Israel, February 2014.

53. S. Tiomkin, and D.E. Raveh "Airfoil Gust Response in Low Reynolds Numbers," 54th Israel Annual Conference on Aerospace Sciences, Tel-Aviv, Israel, February 2014.

54. J. Heeg, P. Chwalowski, D.M. Schuster, D.E. Raveh, A. Jirasek, and M. Dalenbring, "Plans and Example Results for the 2nd AIAA Aeroelastic Prediction Workshop," *AIAA SciTech*, Kissimmee, Florida, January 2015, pp. 1-19.

55. A. Drachinsky, and D.E. Raveh "Limit-cycle Oscillations of a Pre-tensed High Aspect-ratio Membrane," *55th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2015.

56. A. Drachinsky, and D.E. Raveh "Limit-cycle Oscillations of a Pre-tensed Membrane Strip," International Forum on Aeroelasticity and Structural Dynamics, St. Petersburg, Russia, July 2015.

57. M. Iovnovich, D.E. Raveh, D. Michaels, and M. Adar "Reynolds-averaged Navier-Stokes Study of the Transonic Limit Cycle Oscillation Phenomenon on the F-16 Fighter Aircraft," *International Forum on Aeroelasticity and Structural Dynamics*, St. Petersburg, Russia, July 2015.

58. E. Kantor, R. Cavallaro, and D.E. Raveh "Geometrically Non-linear Structural Modal Model for Aeroelastic Applications," *AIAA SciTech*, San-Diego, California, January 2016.

59. T. Nahum, T. Kogan, M. Iovnovich, and D.E. Raveh "Evaluation of an ARMA Flutter Boundary Prediction Method Based on Discrete-Time Structural Response to Turbulence Excitation in Flight Tests," *56th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2016. Neev-Ya Paper Award

60. L. Yagil, and D.E. Raveh "Minimization of Wing Deformation in Trimmed Flight of Highly Flexible Aircraft Using Multiple Control Surfaces," *56th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2016.

61. E. Kantor, R. Cavallaro, and D.E. Raveh "Nonlinear Structural Modal Model for Aeroelastic Applications," *56th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2016.

62. K. Cohen, and D.E. Raveh "Comparison of Laboratory Testing Techniques for Airborn Store's Dynamic Response to In-flight Environmental Conditions," *56th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, February 2016.

63. D.E. Raveh, Y. Mor Yossef, and Y. Levy "Flow Simulations for the Second Aeroelastic Prediction Workshop Using the EZNSS Code," *34th AIAA Applied Aerodynamics Conference*, Washington, DC, June 2016.

64. L. Yagil, D.E. Raveh, and M. Idan "Elastic Deformations Control of Highly Flexible Aircraft in Trimmed Flight and Gust Encounter," *AIAA SciTech*, Grapevine, Texas, January 2016. AIAA Structural Dynamics Student Paper Award

65. M. Iovnovich, T. Nahom, M. Presman, D. Avsaid, T. Braier, and D.E. Raveh "Validation of Advanced Flutter Flight Test Techniques and Flutter Boundary Prediction Methods," *57th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 2017.

66. D. Kariv, M. Iovnovich, and D.E. Raveh "Assessment of Dynamic Response to Store Ejection Solution Methods," *57th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 2017.

67. M. Freydin, M. Rettner, D.E. Raveh, S. Shoham, U. Ben-Simon, I. Kressel, R. Davidi, and M. Tur, "Design of an Experimental Study of Fiber-Optics Shape Sensing for Elastic Wings," *57th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 2017.

68. D.E. Raveh, "Flutter Analysis for the Second Aeroelastic Prediction Workshop," *International Forum on Aeroelasticity and Structural Dynamics*, Como, Italy June 2017.

69. M. Argaman and D.E. Raveh, "Computational Fluid Dynamics Based Aeroelastic System Identification and Flutter Prediction," *International Forum on Aeroelasticity and Structural Dynamics*, Como, Italy June 2017.

70. E. Kantor and D.E. Raveh, "Nonlinear-Structural Nonlinear-Aerodynamic Model for Static Aeroelastic Problems," *International Forum on Aeroelasticity and Structural Dynamics*, Como, Italy June 2017.

71. M. Iovnovich, T. Nahom, M. Presman, D. Avsaid, T. Braier, and D.E. Raveh "Validation of Advanced Flutter Flight Test Techniques and Flutter Boundary Prediction Methods," *International Forum on Aeroelasticity and Structural Dynamics*, Como, Italy June 2017.

72. M. Argaman and D.E. Raveh, "Multi-Output Autoregressive Aeroelastic System Identi cation and Flutter Prediction," *AIAA SciTech*, Kissimmee, Florida January 2018.

73. M. Freydin, M. Keren-Rattner, and D.E. Raveh "Strain-Based Aeroelastic Shape Sensing," *AIAA SciTech*, Kissimmee, Florida January 2018. AIAA Structural Dynamics Student Paper Award

74. S. Tiomkin and D.E. Raveh, "Membrane wing dynamic stability: The role of membrane mass," *AIAA SciTech*, Kissimmee, Florida January 2018.

75. T. Nahom, D.E. Raveh, and M. Iovnovich, "Wind-Tunnel Study of the ARMA Flutter Prediction Method," *AIAA SciTech*, Kissimmee, Florida January 2018.

76. F. Roizner, D.E. Raveh, and M. Karpel, "Safe Flutter Tests Using Parametric Flutter Margins," *AIAA SciTech*, Kissimmee, Florida January 2018.

77. I. Mizrahi and D.E. Raveh, "An Investigation of Wing Elasticity Effects on Store Separation Based on Computational Fluid Dynamics," *AIAA Aviation*, Atlanta, Georgia, June 2018.

78. L. Poplingher and D.E. Raveh, "Modal Analysis of Transonic Shock Buffet on 2D Airfoil," *AIAA Aviation*, Atlanta, Georgia, June 2018.

79. D. Tihomirov and D.E. Raveh, "Nonlinear Aerodynamic Effects on Static Aeroelasticity of Flexible Missiles," AIAA SciTech, San-Diego, California, January 2019. AIAA Structural Dynamics Student Paper Award

80. W. Mallik and D.E. Raveh, "Computationally Efficient Gust Load Analysis at High Angles of Attack," AIAA SciTech, San-Diego, California, January 2019.

81. W. Mallik and D.E. Raveh, "Kriging-Based Gust Response Analysis Methodology at High Angles of Attack," *59th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 2019.

82. D. Kariv and D.E. Raveh, "Dynamic Response of an Elastic Aircraft to Store Ejection," *59th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 2019.

83. A. Drachinsky and D.E. Raveh, "Modal Rotations: A Modal-Based Method for Large Structural Deformations," *59th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 2019.

84. W. Mallik and D.E. Raveh, "Analysis of Light Dynamic Stall Using Dynamic Mode Decomposition" *Dynamic Response of an Elastic Aircraft to Ripple Store Ejection*, Savannah, Georgia, June 2019.

85. D. Kariv and D.E. Raveh, "Dynamic Response of an Elastic Aircraft to Ripple Store Ejection," *International Forum on Aeroelasticity and Structural Dynamics*, Savannah, Georgia, June 2019.

86. A. Drachinsky and D.E. Raveh, "Modal Rotations: A Modal-Based Method for Large Structural Deformations," *International Forum on Aeroelasticity and Structural Dynamics*, Savannah, Georgia, June 2019.

Conferences

KEYNOTE

1. 7th Symposium on Applied Aerodynamics and Design of Aerospace Vehicles, Kerala, India, December 2015. Talk title "Transonic Aerodynamic Shock–Buffet and Related Aeroelastic Phenomena"

Invited Talks

1. US Airforce Office of Scientific Research (AFOSR) workshop on *Research Agenda for Aeroelasticity an Fluid-Structure Interaction*, Washington, DC, February 2008. Workshop discussing desired new directions in US Air-Force funded research in aeroelasticity. Presented my CFD-based research on transonic aeroelasticity and gust response.

2. Mini Symposium on Advances in Nonlinear Aeroelasticity of Flexible Aircraft, 10th World Congress on Computational Mechanics. Talk title "Gust Response Analysis of a Very Flexible Aircraft with Different Fidelity Aerodynamics." Sao Paulo, Brazil, July 2012.

3. NASA Langley first *Aeroelastic Prediction Workshop* on validation of CFD methods for unsteady aerodynamics and static aeroelasticity, Honolulu, HI, April 2012. Participated and contributed to the workshop organization by providing computational meshes for all to use.

4. Workshop on Aeroelasticity, TU Delft, Delft, The Netherlands, September 2012. Talk title "Computational Aeroelasticity in EZNSS."

5. Workshop on Computational Aeroelasticity, University of Southampton, UK, January 2016. Four talks, titled: "Recent Results from the 2nd Aeroelastic Prediction Workshop", "Transonic shock-buffet phenomenon on 2D and 3D configurations", "Unsteady aerodynamics and aeroelasticity in the vicinity of shock-buffet", and "LCO analysis of the F-16 fighter aircraft". As part of the Distinguished Visiting Fellow grant of the Royal Academy of Engineering.

6. Faculty Seminar at the University of Southampton, Engineering and the Environment, Southampton, UK, January 2016. Talk title: "Transonic Aerodynamic Shock-buffet and Related Aeroelastic Phenomena". As part of the Distinguished Visiting Fellow grant of the Royal Academy of Engineering.

Invited Papers

1. D.E. Raveh, Y. Mor Yossef, and Y. Levy "Flow Simulations for the First Aeroelastic Prediction Workshop Using the EZNSS Code," *51st Aerospace Sciences Meeting*, The Aeroelastic Prediction Workshop (Invited), Grapevine, TX, January 7-10 2013.

Participation In Organizing Conferences

1. Scientific Committee of the Second International Symposium on Flutter and its Application, 12-14 May 2020, Paris, France.

2. Co-Chair, AIAA second *Aeroelastic Prediction Workshop* on validation of CFD methods for unsteady aerodynamics and aeroelasticity, January 2016, San-Diego, CA.

3. Program Committee Chair, *54th Israeli Conference on Aerospace Sciences*, 19-20 February, 2014, Israel.

4. Organizer of a mini-symposium (13 presentations) on *Advances in Nonlinear Unsteady Aerodynamics*, within the US National Congress on Computational Mechanics (USNCCM), 22-25 July, 2013, Raleigh, NC.

5. Organizing Committee of the NASA Langley first *Aeroelastic Prediction Workshop* on validation of CFD methods for unsteady aerodynamics and static aeroelasticity, April 2012, Honolulu, HI.

6. Organizing Committee of the Israeli Conference on Mechanical Engineering (ICME), 17-18 October, 2012, Tel-Aviv University.