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CONTACT

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ACADEMIC DEGREES

- **Ph.D.** in Aerospace Engineering, Technion – Israel Institute of Technology, Israel **2017**.
- **M.Sc.** (*Summa Cum Laude*) in Mechanical Engineering, Ben-Gurion University of the Negev, Israel, **2013**.
- **B.Sc.** (*Cum Laude*) in Mechanical Engineering, Ben-Gurion University of the Negev, Israel, **2011**.

ACADEMIC APPOINTMENTS

Jul. 2022 – present	Assistant Professor, Faculty of Aerospace Engineering, Technion.
Sept. 2020 – Jun. 2022	Postdoctoral Research Associate, Department of Aerospace and Mechanical Engineering, University of Notre Dame, IN, USA.
Jan. 2018 – Aug. 2020	Postdoctoral Fellow, Department of Mechanical Engineering, Johns Hopkins University, MD, USA.
Oct. 2017 – Jan. 2018	Research Associate, Faculty of Aerospace Engineering, Technion, Israel.

RESEARCH INTERESTS

Experimental and theoretical fluid mechanics that combines interdisciplinary approaches from dynamical systems, signal processing, computer vision tools, and estimation theory. Current focus: cavitation and bubble dynamics, transitional and turbulent boundary layers, flow control (low order system modeling), smooth body flow separation, non-isothermal multi-phase turbulence.

TEACHING EXPERIENCE

- Lecturer in Faculty of Aerospace Engineering, Technion. Courses:
  - Selected Topics in Fluid Dynamics 1: Cavitation and Bubble Dynamics (Joint level): **Spring 2023**
- Teaching Assistant in Faculty of Aerospace Engineering, Technion (**2013-2017**). Courses:
  - Viscous Flow and Heat Transfer (Undergraduate level).
  - Combustion Processes (Joint level).
  - Experimental Methods in Aerospace Engineering (Undergraduate level).

- Instructor in The Harry and Lou Stern Family Science and Technology Youth Center, Technion (**2014-2015**).
- Supervisor in SciTech - International Summer Science Camp hosted by The Harry and Lou Stern Family Science and Technology Youth Center, Technion (**Summer 2014**).
- Teaching Assistant in Department of Mechanical Engineering, Ben-Gurion University (**2011-2013**). Courses:
  - Statistical Methods for Engineers (Undergraduate level)
  - Mechanical Engineering - Laboratory 2 (Undergraduate level)
  - Introduction to Mechanical Engineering (Undergraduate level)

DEPARTMENTAL ACTIVITIES

- 2022-2023, Faculty Council Secretary, Department of Aerospace Engineering, Technion.

PUBLIC PROFESSIONAL ACTIVITIES

Conference and Workshop Activities

- **Session chair** at the 74th APS DFD, Nov. 21-23, 2021, Session Q23: Flow Control II.
- **Session chair** at the AIAA SciTech, Jan. 3-7, 2022, Session FD-35: Instability and Transition III.
- **Session chair** Session chair at the 62nd Israel Annual Conference on Aerospace Sciences (IACAS), March. 15, 2023, Session WeL2T4: Aerodynamics II.
- **Session chair** at the 62nd Israel Annual Conference on Aerospace Sciences (IACAS), March. 15, 2023, Session ThPl5: Keynote Speakers.

Journal reviewer

- Physics of Fluids (PoF), 2023 (two rounds: Dec 2022, Jan 2023)
- International Journal of Multiphase Flow, 2023 (two rounds: March 2023, June 2023)
- Physics of Fluids (PoF), 2023 (July 2023)

Conference reviewer

- 57th Israel Annual Conference on Aerospace Sciences, 2017.

MEMBERSHIP IN PROFESSIONAL SOCIETIES

- American Physical Society (APS) membership (2016-present).
- American Institute of Aeronautics and Astronautics (AIAA) membership (2018, 2022).

FELLOWSHIPS, AWARDS, AND HONORS

- **2017** Aerospace Faculty Research Day, Poster Award, Technion–Israel Institute of Technology.
- **2016** Irwin and Joan Jacobs Scholarship Award for Excellence in Graduate Studies, Technion – Israel Institute of Technology, Graduate School.
- **2013** M.Sc., Summa Cum Laude, Mechanical Engineering, Ben-Gurion University of the Negev.
- **2011** B.Sc., Cum Laude, Mechanical Engineering, Ben-Gurion University of the Negev.

PUBLICATIONS

Theses

1. Gluzman, I., Experimental Study of Temperature Fluctuations in Forced Stably Stratified Turbulent Flows, *M.Sc. Thesis*, Ben-Gurion University of the Negev, 2013.
   Thesis Advisors: Tov Elperin, Alexander Eidelman.

2. Gluzman, I., Disturbance Identification in Boundary Layer Flow via Blind Source Separation, *Ph.D. Thesis*, Technion – Israel Institute of Technology, 2017.
   Thesis Advisors: Jacob Cohen, Yaakov Oshman.

Refereed papers in professional journals

Graduate students denoted by (*).

Published papers

1. §Eidelman, A., Elperin, T., **Gluzman, I.***, Kleeorin, N., and Rogachevskii, I., Experimental Study of Temperature Fluctuations in Forced Stably Stratified Turbulent Flows. *Phys. Fluids* 25, 015111 (2013).(§**Authors are ordered alphabetically**.)
2. §Eidelman, A., Elperin, T., **Gluzman, I.***, Golbraikh,E., Helicity of Mean and Turbulent Flow with Coherent Structures in Rayleigh-Bénard Convective Cell, *Phys. Fluids (1994-present)*, 26, 065103 (2014). (§**Authors are ordered alphabetically**.)
3. **Gluzman I.***, Cohen J., Oshman Y., Statistical Calibration via Gaussianization in Hot-Wire Anemometry. *Exp. Fluids* 58.3: 15, (2017).
4. **Gluzman I.**, Oshman Y., Cohen J., Detection and Isolation of Tollmien-Schlichting Waves in Shear Flows Using Blind Source Separation, *Mech. Syst. Signal Process.*, 136, 106485 (2020).
5. **Gluzman I.** & Gayme F. D., Input-output framework for actuated boundary layers, *Phys. Rev. Fluids*, 6 (5), art. no. 053901 (2021).
6. **Gluzman I.**, Cohen J., Oshman Y., Blind disturbance separation and identification in a transitional boundary layer using minimal sensing, *J. Fluid Mech.*, 927,A4 (2021).
7. **Gluzman, I.** & Thomas, F. O., Characterization of bubble dynamics in the nozzle flow of aviation fuels via computer vision tools., *Int. J. Multiph. Flow* (2022): 104133.
8. **Gluzman, I.**, Gray P.*, Mejia K., Corke T. C., Thomas F. O., A simplified photogrammetry procedure in oil-film interferometry for accurate skin friction measurement over a Gaussian bump *Exp. Fluids*, 63.7 (2022): 1-14.
9. Liu C.*, **Gluzman, I.**, Lozier M.*, Midya S.*, Gordeyev S., Thomas F. O., Gayme F. D., Spatial Input–Output Analysis of Actuated Turbulent Boundary Layers, *AIAA J.*, 1-15 (2022).
10. **Gluzman, I.** & Thomas, F. O., Image-based characterization of the bubbly shock wave generation and evolution in aviation fuel cavitation, *Phys. Rev. Fluids*, 7, 084305 (2022).
11. **Gluzman, I.**, Anthony Pelster*, Michael Waldrop*, & Thomas, F. O., On cavitation in the radial flow of a thin lubricating film between two overlying disks, *Phys. Fluids*, 35, 023302 (2023).

Refereed papers in conference proceedings

Graduate students denoted by (*). The presenter is underlined:

1. **Gluzman, I.***, Cohen, J., Oshman, Y., Disturbance Source Identification for Flow Control: Problem Formulation for Infinitesimal Disturbances, *56th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 9–10, 2016.

2. **Gluzman, I.***, Cohen, J., Oshman, Y., Statistical Calibration via Gaussianization in Hot-Wire Anemometry, *56th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 9–10, 2016.
3. **Gluzman, I.***, Cohen, J., Oshman, Y., Identifying Disturbance Sources in Shear Flows Using the Degenerate Unmixing Estimation Technique, *57th Israel Annual Conference on Aerospace Sciences, Tel-Aviv, Israel*, March 15–16, 2017.
4. **Gluzman, I.**, Oshman, Y., Cohen, J., Estimation of Disturbance Propagation Velocity in Transitional Shear Flow, *58th Israel Annual Conference on Aerospace Sciences, Tel-Aviv, Israel*, March 14–15, 2018.
5. **Gluzman, I.**, Oshman, Y., Cohen, J., Identification of Disturbances and their Propagation Velocity in Transitional Boundary Layer, *2018 Flow Control Conference, AIAA AVIATION Forum (AIAA 2018-3694)*, Atlanta, Georgia, USA, June 25–29, 2018.
6. Liu C.*, **Gluzman, I.**, Lozier M.*, Midya S.*, Gordeyev S., Thomas F. O., Gayme F. D., Spatial input-output analysis of large-scale structures in actuated turbulent boundary layers, *2021 AIAA AVIATION Forum*, Virtual Event, 2–6 August 2021.
7. Gray P.*, **Gluzman, I.**, Thomas F. O., Corke T. C., Matthew L., Mejia K., A New Validation Experiment for Smooth-Body Separation, *2021 AIAA AVIATION Forum*, Virtual Event, 2–6 August 2021.
8. Gray P.*, **Gluzman, I.**, Thomas F. O., Corke T. C., Mejia K., Experimental Characterization of Smooth Body Flow Separation Over Wall-Mounted Gaussian Bump, *2022 AIAA SciTech Forum*, San Diego, CA & Online, 3–7 Jan 2022.
9. Gray P.*, **Gluzman, I.**, Thomas F. O., Corke T. C., Matthew L., Mejia K., Benchmark Characterization of Separated Flow Over Smooth Gaussian Bump, *2022 AIAA AVIATION Forum*, Chicago, IL, 27 June–1 July 2022.
10. Gray P.*, Matthew L., Thomas F. O., Corke T. C., **Gluzman, I.**, Straccia J., Experimental and Computational Evaluation of Smooth-Body Separated Flow over Boeing Bump, *2023 AIAA AVIATION Forum*, San Diego, CA, 12-16 June 2023.

CONFERENCES

Plenary, keynote or invited talks

1. **Gluzman, I**., A simplified photogrammetry procedure in oil-film interferometry for accurate skin-friction measurement over arbitrary geometries, Experiments in Fluids Seminar Series, hosted by Experiments in Fluids, Springer Nature, Virtual Event, October 11, 2022. (Link)

Contributed talks and posters

Graduate students denoted by (*). The presenter is underlined:

1. §Eidelman, A., Elperin, T., **Gluzman, I.***, Kleeorin, N., and Rogachevskii, I., Experimental Study of Temperature Fluctuations in Forced Stably Stratified Turbulent Flows, *The 32nd Israeli Conference of Mechanical Engineering, Tel-Aviv*, Israel, October 17–18, 2012. (§**Authors are ordered alphabetically**)
2. §Eidelman, A., Elperin, T., **Gluzman, I.***, Kleeorin, N., and Rogachevskii, I., Temperature and Velocity Fluctuations in Forced Stably Stratified and Convective Turbulent Flows: Experiments and Theory, *14th European Turbulence Conference*, Lyon, France, September 1–4, 2013. (§**Authors are ordered alphabetically**)
3. §Eidelman, A., Elperin, T., **Gluzman, I.***, Golbraikh, E., Helicity of Turbulent Flow with Coherent Structures in Rayleigh-Bénard Convective Cell, *14th European Turbulence Conferenc*e, Lyon, France, September 1–4, 2013. (Poster). (§**Authors are ordered alphabetically**)

4. **Gluzman, I.***, Cohen, J., Oshman, Y., Disturbance Source Identification for Flow Control, *6th Symposium on Global Flow Instability and Control*, Hersonissos, Crete, Greece, September 28–October 2, 2015.
5. **Gluzman, I.***, Cohen, J., Oshman, Y., The Evolution of a 2D SDBD Plasma Generated Disturbance Along a Flat Plate Boundary Layer, *Aerospace Faculty Research Day*, Technion, Israel, April 13, 2016. (Poster).
6. **Gluzman, I.***, Cohen, J., Oshman, Y., Disturbance Source Identification for Flow Control: Problem Formulation for Infinitesimal Disturbances, *The Annual Workshop of Graduate Students in Systems & Control Under the auspice of IAAC – the Israeli Association for Automatic Control*, Holon, Israel, May 2, 2016.
7. **Gluzman, I.***, Cohen, J., Oshman, Y., Novel Method and Experimental Validation of Statistical Calibration via Gaussianization in Hot-wire Anemometry, *The 69th Annual Meeting of the American Physical Society – Division of Fluid Dynamics*, Portland, OR USA, November 20–22, 2016.
8. **Gluzman, I.***, Cohen, J., Oshman, Y., Statistical Calibration of Hot-Wire Anemometer, *The 2017 Annual Aerospace Faculty Research Day*, Technion, Israel, April 19, 2017. (Poster).
9. **Gluzman, I.***, Cohen, J., Oshman, Y., Disturbance Source Separation in Shear Flows Using the Degenerate Unmixing Estimation Technique (DUET), *The Annual Workshop of Graduate Students in Systems & Control Under the auspice of IAAC – the Israeli Association for Automatic Control*, Haifa, Israel, May 8, 2017.
10. **Gluzman, I.***, Cohen, J., Oshman, Y., Disturbance Source Separation in Shear Flows Using Blind Source Separation Methods, *The 70th Annual Meeting of the American Physical Society – Division of Fluid Dynamics*, Denver, CO USA, November 19–21, 2017.
11. **Gluzman, I.**, Oshman, Y., Cohen, J., Estimation of Disturbance Propagation Velocity in Transitional Shear Flow, *Graduate Seminar in Fluid Mechanics*, Department of Mechanical Engineering, Johns Hopkins University, Baltimore, MD USA, May 4, 2018.
12. **Gluzman, I.**, Gayme, D. F., Energy Amplification and Flow Structure Evolution in Boundary Layers due to Localized Forcing, *Graduate Seminar in Fluid Mechanics*, Department of Mechanical Engineering, Johns Hopkins University, Baltimore, MD USA, November 9, 2018.
13. **Gluzman, I.**, Gayme, D. F., Energy Amplification and Coherent Structure Evolution due to Localized Forcing in Flat Plate Boundary Layer Flow, *The 71th Annual Meeting of the American Physical Society – Division of Fluid Dynamics*, Atlanta, GA USA, November 18–20, 2018.
14. **Gluzman, I.**, Gayme, D. F., Input-Output Framework for Actuated Boundary Layers, *2019 Research Symposium on Environmental and Applied Fluid Dynamics*, Johns Hopkins University, Baltimore, MD USA, May 30, 2019.
15. **Gluzman, I.**, Gayme, D. F., An Input-Output Approach to Evaluating Flow Response to Spatially Varying Actuator Geometries, *17th European Turbulence Conference*, Torino, Italy, September 3–6, 2019.
16. **Gluzman, I.**, Gayme, D. F., An Input-Output Approach to Investigate the Effects of Actuator Geometry, *Graduate Seminar in Fluid Mechanics*, Department of Mechanical Engineering, Johns Hopkins University, Baltimore, MD USA, September 13, 2019.
17. **Gluzman, I.**, Gayme, D. F., A Model-Based Investigation of the Effect of Actuator Geometry on Boundary Layer Flows, *The 72th Annual Meeting of the American Physical Society – Division of Fluid Dynamics*, Seattle, WA USA, November 23–26, 2019.
18. **Gluzman, I.**, Gayme, D. F., Input-output approach to characterizing the structure interaction in turbulent boundary layers, *Graduate Seminar in Fluid Mechanics*, Department of Mechanical Engineering, Johns Hopkins University, Baltimore, MD USA, February 28, 2020.
19. **Gluzman, I.**, Thomas, F. O., Aviation Fuel Cavitation Model Development and Validation, *Friday Fluids Discussions*, Department of Aerospace and Mechanical Engineering, University of Notre Dame, Notre Dame, IN USA, April 22, 2021.
20. **Gluzman, I.**, Thomas, F. O., Bubble dynamics and cavitation inception mechanism charac-

terization in aviation fuel liquids via computer vision tools, *The 74th Annual Meeting of the American Physical Society – Division of Fluid Dynamics*, Phoenix, AZ USA, November 21–23, 2021.

21. **Gluzman, I.**, Thomas, F. O., Shock wave emission and evolution mechanisms in aerated cavitating aviation fuel flow in a converging-diverging nozzle, *The 74th Annual Meeting of the American Physical Society – Division of Fluid Dynamics*, Phoenix, AZ USA, November 21–23, 2021.
22. Pelster, A.*, **Gluzman, I.**, Thomas, F. O., Experiments and Modeling of Aviation Fuel Cavitation in a Geometry Relevant to Aircraft Fuel Pumps, *The 75th Annual Meeting of the American Physical Society – Division of Fluid Dynamics*, Indianapolis, IN USA, November 20–22, 2022.
23. Gray P.*, **Gluzman, I.**, Thomas F. O., Corke T. C., Mejia K., Coherent Vortical Structures in the Separated Flow over a 3-D Hump, *The 75th Annual Meeting of the American Physical Society – Division of Fluid Dynamics*, Indianapolis, IN USA, November 20–22, 2022.
24. **Gluzman, I.**, Pelster, A., Thomas F. O., Modeling and experimental characterization of aviation fuel cavitation in the radial flow between two parallel disks, *62th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 15–16, 2023.
25. **Gluzman, I.**, Gray*, P., Corke T. C., Thomas F. O., Accurate skin friction measurement over 3D surfaces via a simplified photogrammetry procedure in oil-film interferometry, *62th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 15–16, 2023.
26. Gray, P.*, **Gluzman, I.**, Thomas F. O., Corke, T. C., Experimental Investigation of Embedded Shear Layer in Smooth-body Separated Flow over Boeing Bump, *62th Israel Annual Conference on Aerospace Sciences*, Tel-Aviv, Israel, March 15–16, 2023.

NOTES

Reports

Graduate students denoted by (*).

1. Gray P.*, Matthew L., Thomas F. O., Corke T. C., **Gluzman, I.**, Straccia J., Turbulence Model Validation Through Joint Experimental Computational studies of separated flow over three-dimensional tapered bump, *Final Report submitted to Boeing*, publisher NASA, 24 July 2023.