



PERSONAL DETAILS

Name: Meital Geva
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MILITARY SERVICE

2004-2007 Sergeant, Air force, Israel Defense Forces.
Positions: F16 flight simulator instructor, substituting for the commanding officer.
In charge of the concentration of jet propulsion knowledge.

EDUCATION

2020-2022 Postdoctoral Fellow (TAU and BGU fellowships). Department of Mechanical Engineering, Tel-Aviv University (host: Prof. Lev Shemer).
Subject: "Wind-waves excitation and internal-waves in stratified fluid".

2011-2018 Ph.D. Direct program for outstanding Bachelor's degree students in Mechanical Engineering, BGU, Israel. Research thesis title "Non-stationary shock-wave reflection phenomena" (supervisor, Prof. Oren Sadot). **G.P.A. 98**, valedictorian
2013 M.Sc. degree – Graduated Summa Cum Laude **G.P.A. 98.92**.

2007-2011 B.Sc. in Mechanical Engineering, Ben-Gurion University of the Negev (BGU), Israel. Graduation research project title: "Analytical and numerical solution of shock propagation in multiphase gas mixtures".
Graduated Summa Cum Laude **G.P.A. 97.04**. Ranked **1** out of **174** graduates.

PROFESSIONAL POSITION

2022- Senior lecture, School of Mechanical Engineering, Tel-Aviv University
2022- Head of the Wave Dynamic Laboratory, School of Mechanical Engineering, Tel-Aviv University

2017-2019 Researcher in the Analysis team, Engineering department, Soreq Nuclear Research Center. Field of expertise: thermal-hydraulic systems and reactive high-speed compressible flows.
Aug. 2018 Tenure

EDUCATIONAL ACTIVITIES AND OCCUPATIONAL EXPERIENCE

2021 Lecturer, Fluid Mechanics for Chemical Engineers (2nd year undergraduate, BGU).

2009-2017 Research assistant at ME Dept., BGU, Shock Tube Laboratory. Theoretical, numerical and image processing support in various studies.

2011-2017 Conducting research in non-stationary shock-wave reflection phenomena. Work included analytical and numerical investigations and image processing analysis.

2011-2016 Instructor at the ME Instruction Lab (3rd year undergraduate, BGU).

2011-2017 Teaching assistant, Fluid Mechanics (2nd year undergraduate ME, BGU).

2011-2017 Examining graduation final projects of undergraduate ME students at BGU.

2015-2017 Performing qualification exams of excellent high-school students, attending the pre-engineering program at ME Dept., BGU.

2016 Teaching mathematics techniques for excellent high-school students in the pre-engineering program of ME Dept., BGU.

SUPERVISION OF GRADUATE STUDENTS

2022- Ph.D. student. Thesis title: "Modification of the coupled viscous shear flow instability theory". School of ME, Tel-Aviv University

2022- M.Sc. student. Thesis title: "Understanding the turbulent boundary layer over wind waves". School of ME, Tel-Aviv University

2019-2020 M.Sc. student. Thesis title: “Unsteady Shock Wave Reflection Phenomena Over Concave Surfaces”, ME depart., Ben-Gurion University (with Prof. O. Sadot, BGU).

EDUCATIONAL PRIZES AND AWARDS

- 1 2004 Israeli Minister of Education Award for outstanding final high school grades
- 2 2007 The Israel President’s Award for outstanding military service performance
- 3 2009 BGU Rector Award for outstanding academic achievement in the 1st academic year
- 4 2009 Head of the Mechanical Engineering Department Award for outstanding academic achievement in the 1st academic year
- 5 2010 Dean of Engineering Award for outstanding academic achievement in the 2st academic year
- 6 2010 E. Zehavi Award for excellence in finite element design studies
- 7 2011 Dean of Engineering Award for outstanding academic achievement in the 3rd academic year
- 8 2011 Jacob’s letter of commendation for outstanding achievements in Thermodynamic studies
- 9 2011 I.I. Glass Award for the outstanding academic achievement in Fluid Mechanics Studies
- 10 2011 Besor scholarship for the “direct PhD track” for outstanding undergraduate academic achievements
- 11 2012 Udi Ben-Amitai Award for excellence in aeronautics and space research
- 12 2012 Rector Award for outstanding academic achievement in the 4th academic year
- 13 2012 Head of the Mechanical Engineering Department Award for outstanding academic achievement in the 4th academic year
- 14 2013 The Israeli Ministry of Science, Technology and Space Award
- 15 2014 Dean of Engineering Award for outstanding academic achievement in the M.Sc. degree
- 16 2015 Oral Presentation Competition Award, 30th International Symp. on Shock Waves, Tel-Aviv, Israel.
- 17 2016 Pazi award for exceptional students
- 18 2017 Baruch Zinger scholarship
- 19 2017 Oral Presentation Competition Award, 31st International Symp. on Shock Waves, Nagoya, Japan.
- 20 2017 Katzir Ministry of Defense fellowship.
- 21 2020-2022 PostDoct Scholarship, Tel-Aviv University
- 22 2020-2022 PostDoct Scholarship, Ben-Guiron University

RESEARCH GRANTS (as a principal investigator approved while at Soreq Nucl. Res. Center)

- 1 Analysis of Thermal-hydraulic Transients in Small Modular Reactors using RELAP5, 550K NIS, Israel Ministry of Energy (2018-2020). In a collaboration with the Technion.
- 2 Mixing and internal gravity waves in thermally stratified pools, 600K USD, Pazi Foundation (2020-present). In a collaboration with Tel-Aviv University.

REFEREED ARTICLES IN SCIENTIFIC JOURNALS

- 1 **Geva M.**, Ram O., Sadot O. (2013) Non-stationary hysteresis shock wave reflection phenomenon, *J. Fluid Mech.*, 732, 423 (Q1).
- 2 Ram O¹., **Geva M.**¹, Sadot O. (2015) High spatial and temporal resolutions study of shock wave reflection over a coupled convex-concave cylindrical surface, *J. Fluid Mech.*, 768, 219-239 (Q1).
¹ equally contributed authors
- 3 **Geva M.**, Ram O., Sadot O. (2018). The regular reflection→ Mach reflection transition in unsteady flow over convex surfaces, *J. Fluid Mech.*, 837, 48-79 (Q1).

- 4 Koronio E., Ben-Dor G., Sadot O., & **Geva, M.** (2020) Similarity in Mach stem evolution and termination in unsteady shock-wave reflection. *J. Fluid Mech.*, 902 (Q1)
- 5 **Geva M.**, Bukai M., Zemach E., Gabay S., Krakovich A., & Shemer L. (2021). On the spontaneous appearance of internal waves in an open-pool-type research reactor. *Phys. Fluids*, 33(2), 022102 (Q1).
- 6 **Geva M** & Shemer L. (2022) The wall similarity in turbulent boundary layers over wind-waves. *J. Fluid Mech.*, 935, A42 (Q1).
- 7 **Geva M** & Shemer L. On excitation of initial waves by wind: a theoretical model and experimental verification. *Phys. Rev. Lett.* 128, 124501 (Editor's suggestion) (Q1).

Accepted

- 8 Kumar, K., **Geva M.** & Shemer L. Turbulent Boundary Layer Profiles in Airflow over Young Wind Waves in Co- and Counter-Wind Water Current. Submitted to the *Int. J. Heat Fluid Flow*.

Submitted

- 9 **Geva M.**, Kumar S. & Shemer L. Stochastic quasi-linear and nonlinear theories for predicting the spatial growth of wind waves.

PRESENTATIONS AT CONFERENCES AND CHAPTERS IN BOOKS

- 1 **Geva M.**, Elbaz Y., & Sadot O. (2012). Analytical and numerical solution of shock propagation in multiphase gas mixtures. In *20th International Symposium on the Interaction of Shock*, Stockholm, Sweden.
- 2 **Geva M.**, Ram O. and Sadot O., & Ben-Dor G. (2014). Examination of parameters influencing the non-stationary hysteresis reflection phenomenon. In *21st International Shock Interaction Symposium*, Riga, Latvia.
- 3 Ram O., **Geva M.**, Sadot O. (2014). High spatial and temporal resolutions experimental shock-tube system for studying transient shock reflections. In *21st International Shock Interaction Symposium*, Riga, Latvia.
- 4 **Geva M.**, Ram O. & Sadot O. (2015). Hysteresis Phenomenon in Transient Shock-Wave Reflections. 33rd Israeli Conference on Mechanical Engineering, Tel-Aviv, Israel.
- 5 **Geva M.**, Ram O., Sadot O., & Ben-Dor G. (2015). High Resolution Experimental Investigation of the Reflection over a Convex-Concave Cylindrical Model. In *30th International Symposium on Shock Waves*, Tel-Aviv, Israel.
- 6 Soni V., **Geva M.**, Ram O., Hadjadj A., Sadot O., & Ben-Dor G. (2015). Computational and experimental studies of shock waves reflection over concave double wedges reflectors. In *30th International Symposium on Shock Waves*, Tel-Aviv, Israel.
- 7 **Geva M.**, Ram O. & Sadot O. (2015). The non-stationary convex surfaces reflections. The 34th Israeli Conference on Mechanical Engineering, Tel-Aviv, Israel.
- 8 **Geva M.**, Ram O., Sadot O., & Ben-Dor G. (2017). Geometrical perception of convex surface reflections. In *31th International Symposium on Shock Waves*, Nagoya, Japan.
- 9 **Geva M.** & Barami E. (2018). Primary jet breakup using VOF-LES. *Fluent symp.*, Tel-Aviv
- 10 Koronio E., Sadot O. & **Geva M.** (2019). Unsteady shock wave reflection over concave surface. In *32nd International Symposium on Shock Wave*, Singapore.
- 11 **Geva M.** & Shemer L. (2021). excitation of water waves by impulsively applied wind: Orr-Sommerfeld computations vs. experiments. In *25th International Congress of Theoretical and Applied Mechanics*, Milano, Italy (online)
- 12 **Geva M.** & Shemer L. (2021). Theoretical model of wind-wave evolution: from initial ripples to finite steady state, Waves in Shallow Water Environment meeting, Bergen, Norway (online).

- 13 **Geva M.** & Shemer L. (2022). Viscous shear instability at air-water interface as a function of wind velocity profile. EGU 2022 General Assembly, Vienna, Austria
- 14 **Geva M.** & Shemer L. (2022) Wind waves under steady wind forcing: rigorous modeling vs. experiments, Waves in Shallow Water Environment meeting (WISE), Brest, France
- 15 **Geva M.** & Shemer L. (2022) On the turbulent boundary layer similarity over young wind-waves, In *12th International Symposium on Turbulence and Shear Flow Phenomena*, Japan
- 16 **Geva M.** & Shemer L. (2022). The spatial wind-wave growth in a coupled shear flow. 14th European Fluid Mechanics Conference (EFMC), Athens, Greece
- 17 **Geva M.** & Shemer L. (2022). The coupling between the turbulent airflow and young wind waves. 14th European Fluid Mechanics Conference (EFMC), Athens, Greece
- 18 **Klein Amit O. & Geva M.**, (2023). Exploring the Mechanism of Wave Generation by Wind through Energy Budget Stability Analysis. The 68th Annual meeting of the Israel Physical Society, Tel-Aviv, Israel
- 19 **Klein Amit O. & Geva M.**, (2023). On the energetic classification of the coupled viscous shear flow instability. The 29th Wave in Sea Environment meeting, to be held on May 2023, Princeton, USA
- 20 **Geva M.**, Kumar K. & Shemer L. (2023). Turbulent boundary layer over young wind waves in the presence of water current. The 29th Wave in Sea Environment meeting, to be held on May 2023, Princeton, USA

OTHER MERITING ACADEMIC MISSIONS

Invited talks

Geva M. (2022). Validated nonlinear stochastic theory for predicting wave growth under steady wind forcing. Israel Society for Theoretical and Applied Mechanics (ISTAM), Technion, Haifa

Chair at a Conference Panel

- 2022 Session 'Nonlinear and turbulent processes under high wind conditions. New and old physics, remote sensing.' The EGU General Assembly, April, Vienna, Austria.
- 2023 Session 'wind and wave interactions', The 29th Waves in Sea Environment meeting (WISE), Princeton, USA

Reviewing activities

- 2021- Reviewer, Journal of Radiation Physics and Chemistry/ Elsevier
- 2022- Reviewer, Journal of Fluid Mechanics/ Cambridge University
- 2023- Reviewer, AIAA Journal\ American Institute of Aeronautics and Astronautics