

Curriculum Vitae

Omri Ram

Mechanical Engineering, Whiting School of Engineering,
Johns Hopkins University, Baltimore, Maryland.

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Education

- 2012 – 2017 **Ph.D.** in Mechanical Engineering, Ben-Gurion University of the Negev, Israel.
Research thesis title “Blast and shock waves interaction with rigid foams”.
- 2011 – 2013 **M.Sc.** in Mechanical Engineering, Ben-Gurion University of the Negev, Israel.
Research thesis title “Blast wave interaction with rigid foams”. Graduated
Magna Cum Laude.
- 2007 – 2011 **B.Sc.** in Mechanical Engineering, Ben-Gurion University of the Negev, Israel.
Graduated Cum Laude.

Educational activities and occupational experience

- 2018- current Post-Doctoral fellow at the Department of Mechanical Engineering, Whiting
School of Engineering, Johns Hopkins University, Baltimore, Maryland, USA.
- 2013 – 2017 Head instructor at introduction to mechanical engineering lab course.
Department of Mechanical Engineering, Ben Gurion University of the Negev,
Israel.
- 2011 – 2017 Teaching assistant in: Introduction to mechanical engineering, Engineering
drawing and graphics for industrial engineering, Fluid mechanics. Department
of Mechanical Engineering, Ben Gurion University of the Negev, Israel.
- 2008 – 2011 Research assistant at the Shock Tube and Impact Pendulum Laboratories,
Department of Mechanical Engineering, Ben-Gurion University of the Negev,
Israel.
- 2008 – 2009 Instructor at the Mechanical Machining Instruction Laboratory, Department of
Mechanical Engineering, Ben-Gurion University of the Negev, Israel.
- 2003 – 2007 Israel Defense Forces - honorably discharged, Major.
- 2000 – 2012 Senior instructor and a leading staff member at Beer-Sheva Aero Club, teaching
Aero-Modeling courses to both children and adults.

Awards

- 2017 Fulbright Post-Doctoral Fellowship by the United States - Israel Education Foundation
- 2016 Oral Presentation Competition Award, 31st International Symposium on Shock Waves, Nagoya, Japan
- 2016 Rector's Award for academic excellence in Ph.D. studies.
- 2015 Oral Presentation Competition Award, 30th International Symposium on Shock Waves, Tel Aviv, Israel.
- 2014 Yitzhak Ben-Aaron Hacohen Award for academic excellence in Ph.D. studies.
- 2014 Adams 3 years Ph.D. Fellowship by the Israel Academy of Sciences and Humanities.
- 2014 Micron Semiconductor Award for academic excellence in Ph.D. studies.
- 2014 Dean of Engineering Award for academic excellence in M.Sc. studies.
- 2014 Udi Ben-Amitai Award for achievements in aeronautical related research.
- 2013 Kreitman 4 years Negev-Faran Ph.D. Fellowship by the Kreitman School of Advanced Graduate Studies.
- 2012 Best B.Sc. Graduation Project Award. Title: "Novel experimental system for blast structure interaction research".
- 2011 Dean of Engineering Award for academic excellence – B.Sc. 4th year.
- 2010 Letter of commendation for academic achievements – B.Sc. 3rd year.
- 2010 E. Zehavi Award for excellence in finite element design studies.

Co-supervisor of B.Sc. students – engineering graduation projects

- 2018 Liat Weiss & Sahar shwartz, "Experimental study of the air flow losses through an array of perforated plates".
- 2017 Uri Hili, "Design and calibration of a PVDF based pressure transducer" - *Best graduation project 2017*
- 2015 Assaf Yaffe, "Dust fragmentation and lofting behind shock wave" - *Best graduation project 2015*
- 2015 Eliram Nof, "Exploration of methods in the exploding wire technique"
- 2014 Maayan Peretz & Schachr Vazana, "Design and construction of a motorized optical setup for the BGU Shock Tube Laboratory"
- 2013 Gedi Minster, "Experimental investigation of shock wave interaction with porous medium in two-dimensional configuration"
- 2013 Kfir Barda, "Construction of an experimental apparatus for measuring the properties of stiff porous medium" – *Best graduation project 2013*
- 2012 Adi Tzur & Yiftach Ben-Porat , "Laboratory small scale experiments for investigation of blast wave behavior in structures"

Peer-reviewed papers

1. **O. Ram**, O Sadot, "On the pressure buildup behind an array of perforated plates impinged by a normal shock wave", 96, pp. 211-221, 2018, *Experimental Thermal & Fluid Science*. DOI: [10.1016/j.expthermflusci.2017.11.014](https://doi.org/10.1016/j.expthermflusci.2017.11.014)
2. M.Geva, **O.Ram**, O.Sadot, "Geometrical dependence of transition from regular reflection to Mach reflection and Mach stem growth over convex surfaces", 837, pp.48-79, 2018, *Journal of Fluid Mechanics* DOI: [10.1017/jfm.2017.835](https://doi.org/10.1017/jfm.2017.835)
3. JR. Hoffman, A. Zuckerman, **O. Ram**, O. Sadot, JR. Stout, I. Ostfeld, H. Cohen," Behavioral and inflammatory response in animals exposed to a low-pressure blast wave and supplemented with β -alanine" *Amino Acids*,49(5), pp. 871-886. , 2017 DOI: [10.1007/s00726-017-2383-8](https://doi.org/10.1007/s00726-017-2383-8)
4. A. Zuckerman, **O. Ram**, G. Ifergane, M.A. Matar, R. Sagi, I. Oshfeld, J.R. Hoffman, Z. Kaplan, O. Sadot, H. Cohen. "Controlled low-pressure blast-wave exposure causes distinct behavioral and morphological responses modelling mTBI, PTSD and co-morbid mTBI-PTSD", *Journal of Neurotrauma*, 34(1), pp. 145-164, 2017, DOI: [10.1089/neu.2015.4310](https://doi.org/10.1089/neu.2015.4310)
5. **O. Ram**, E. Nof, O.Sadot. "Dependence of the load penetrating into a structure on initial conditions and internal geometry", *Experimental Thermal & Fluid Science*, 78, pp. 65-74, 2016 DOI: [10.1016/j.expthermflusci.2016.05.012](https://doi.org/10.1016/j.expthermflusci.2016.05.012)
6. O. Sadot, **O. Ram**, I. Anteby, S. Gruntman, G. Ben-Dor. "The trapped gas effect on the dynamic compressive strength of light aluminum foams". *Materials Science & Engineering A*, 659, pp. 278-286, 2016, DOI: [10.1016/j.msea.2016.02.031](https://doi.org/10.1016/j.msea.2016.02.031)
7. **O. Ram**, O. Sadot. "Analysis of the pressure buildup behind rigid porous media impinged by shock waves in time and frequency domains". *Journal of Fluid Mechanics*, 779, pp. 842-858, 2015, DOI:[10.1017/jfm.2015.463](https://doi.org/10.1017/jfm.2015.463).
8. M. Liverts, **O. Ram**, O. Sadot, N. Apazidis, G. Ben-Dor, "Mitigation of exploding-wire-generated blast-waves by aqueous foam", *Physics of Fluids*, 27, 076103, 2015, DOI: [10.1063/1.4924600](https://doi.org/10.1063/1.4924600)
9. **O. Ram**, M. Geva, O. Sadot, "High spatial and temporal resolutions study of shock wave reflection over a coupled convex-concave cylindrical surface", *Journal of Fluid Mechanics*, 768, pp. 219-239, 2015, DOI:[10.1017/jfm.2015.80](https://doi.org/10.1017/jfm.2015.80)
10. M. Geva, **O. Ram**, O. Sadot, "Non-stationary hysteresis shock wave reflection phenomenon", *Journal of Fluid Mechanics-Rapid*, 732, R1, 2013, DOI:[10.1017/jfm.2013.423](https://doi.org/10.1017/jfm.2013.423).
11. **O. Ram**, O. Sadot, "A simple constitutive model for predicting the pressure histories developed behind rigid porous media impinged by shock waves", *Journal of Fluid Mechanics*, 718, pp. 507-523, 2013, DOI:[10.1017/jfm.2012.627](https://doi.org/10.1017/jfm.2012.627)
12. **O. Ram**, O. Sadot, "Implementation of exploding wires technique to blast wave-structure interaction", *Experiments in Fluids*, 53, 5, pp. 1335-1345, 2012, DOI: [10.1007/s00348-012-1339-8](https://doi.org/10.1007/s00348-012-1339-8).

Chapters in Books

1. O. Sadot, **O. Ram**, E. Nof, E. Kochavi, G. Ben-Dor, “Small-Scale Blast Wave Experiments by Means of an Exploding Wire”, *Blast Effects. Shock Wave and High Pressure Phenomena*. Eds. I. Sochet, Springer, Cham, 2018, [DOI: 10.1007/978-3-319-70831-7_9](https://doi.org/10.1007/978-3-319-70831-7_9)

Chapters in Collective Volumes – Conference Proceedings

1. V. Soni, M. Geva, **O. Ram**, A. Hadjadj, O. Sadot, G. Ben-Dor, “Computational and experimental studies of shock waves reflection over concave double wedges reflectors”, Proceedings of the 30th International Symposium on Shock Waves, Eds. G. Ben-Dor, O. Igra, O. Sadot, Springer, 2015. [10.1007/978-3-319-46213-4_100](https://doi.org/10.1007/978-3-319-46213-4_100)
2. M. Geva, **O. Ram**, O. Sadot, G. Ben-Dor “High resolution experimental investigation of the reflection over a convex-concave cylindrical model” Proceedings of the 30th International Symposium on Shock Waves, Eds. G. Ben-Dor, O. Igra, O. Sadot, Springer, 2015. DOI: [10.1007/978-3-319-46213-4_101](https://doi.org/10.1007/978-3-319-46213-4_101)
3. O. Sadot, I. Anteby, S. Gruntman, **O. Ram**, E. Selef, G. Ben-Dor “the collapsing mechanism of aluminum foams”, Proceedings of the 30th International Symposium on Shock Waves, Eds. G. Ben-Dor, O. Igra, O. Sadot, Springer, 2015. DOI: [10.1007/978-3-319-46213-4_127](https://doi.org/10.1007/978-3-319-46213-4_127)
4. E. Nof, E. Kochavi, **O. Ram**, O. Sadot, G. Ben-Dor “Exploration of methods in the exploding wire technique for simulating large blasts”, The 30th International Symposium on Shock Waves, Eds. G. Ben-Dor, O. Igra, O. Sadot, Springer, 2015. [DOI: 10.1007/978-3-319-46213-4](https://doi.org/10.1007/978-3-319-46213-4)
5. **O. Ram**, O. Sadot, G. Ben-Dor “A Mechanical System Approach to Study the Transient Loading of a Tunnel End where the Flow Path is Obstructed by Stiff Porous Barriers”, Proceedings of the 30th International Symposium on Shock Waves, Eds. G. Ben-Dor, O. Igra, O. Sadot, Springer, 2015. [DOI: 10.1007/978-3-319-46213-4](https://doi.org/10.1007/978-3-319-46213-4)
6. O. Sadot, **O. Ram**, G. Ben-Dor, A. Levy, G. Golan, E. Ran, F. Aizik, “A simple constitutive model for predicting the pressure histories developed behind rigid porous samples impinged by shock waves”, Proceedings of the 29th International Symposium on Shock Waves, Ed. R. Bonazza, D. Ranjan, Vol 2, 1541-1546, 2015, [DOI: 10.1007/978-3-319-16838-8_121](https://doi.org/10.1007/978-3-319-16838-8_121)
7. **O. Ram**, B. Ostraich, O. Sadot, “A novel experimental system for blast structure interaction research”, Proceedings of the 28th International Symposium on Shock Waves, Ed. K. Kontis, Vol 1, 105-110, Heidelberg: Springer, 2012, ISBN:978-3-642-25687-5. [DOI: 10.1007/978-3-642-25688-2_16](https://doi.org/10.1007/978-3-642-25688-2_16)

Presentation at Conferences (presenting author is marked by asterisk)

1. **O. Ram**, G. Ben-Dor, O. Sadot, “Shock wave propagation through a series of perforated plates” The 31st International Symposium on Shock Wave, Nagoya, Japan, 2017.
2. M. Geva, **O. Ram**, O. Sadot, G. Ben-Dor, “Geometrical perception of convex surface reflections” The 31st International Symposium on Shock Wave, Nagoya, Japan, 2017.
3. **O. Ram**^{*}, E. Nof, O. Sadot, “Small Scale Study of The Parameters That Govern The Pressure Buildup Inside Structures Submitted To External Blast Loading”, The 34th Israeli Conference on Mechanical Engineering, Haifa, Israel, 2016.
4. E. Nof^{*}. **O. Ram**, E. Kochavi, O. Sadot, “wall roughness effects on blast attenuation in tunnel structures”, The 34th Israeli Conference on Mechanical Engineering, Haifa, Israel, 2016

5. M. Geva*, **O. Ram**, O. Sadot & G Ben-Dor “The Non Stationary Convex Surfaces Reflections”, The 34th Israeli Conference on Mechanical Engineering, Haifa, Israel, 2016
6. E. Nof, **O. Ram**, E. Kochavi*, O. Sadot, “Blast Propagation in rough-walled tunnels”, The 24th International Symposium on Military Aspects of Blast and Shock, Halifax, Canada, 2016.
7. **O. Ram***, E. Nof, O.Sadot, G. Ben-Dor, “ Internal geometry effects on the developing load inside a structure”, The 24th International Symposium on Military Aspects of Blast and Shock, Halifax, Canada, 2016
8. O.Sadot*, I. Anteby, S. Gruntman, **O. Ram**, G. Ben-Dor, “The collapsing mechanism of aluminum foams”, The 24th International Symposium on Military Aspects of Blast and Shock, Halifax, Canada, 2016
9. E. Nof*, E. Kochavi, **O. Ram**, O. Sadot, G. Ben-Dor, “Experimental investigation of Scaled-Down Explosions”, The 33rd Israeli Conference on Mechanical Engineering, Tel-Aviv, Israel, 2015.
10. M. Geva*, **O. Ram**, O. Sadot & G Ben-Dor. “Hysteresis phenomenon in transient shock-wave reflections”, The 33rd Israeli Conference on Mechanical Engineering, Tel-Aviv, Israel, 2015.
11. **O. Ram***, O. Sadot & G Ben-Dor, “Application of stiff porous medium as a blast protection means”, The 33rd Israeli Conference on Mechanical Engineering, Tel-Aviv, Israel, 2015.
12. V. Soni*, M. Geva, **O. Ram**, A. Hadjadj, O. Sadot & G. Ben-Dor, “Computational and experimental studies of shock waves reflection over concave double wedges reflectors”, The 30th International Symposium on Shock Waves, Tel-Aviv, Israel, 2015.
13. M. Geva*, **O. Ram**, O. Sadot & G. Ben-Dor “High resolution experimental investigation of the reflection over a convex-concave cylindrical model” The 30th International Symposium on Shock Waves, Tel-Aviv, Israel, 2015.
14. O. Sadot*, I. Anteby, S. Gruntman, **O. Ram**, E. Selef & G. Ben-Dor “Experimental study on the collapsing mechanism of aluminum foams”, The 30th International Symposium on Shock Waves, Tel-Aviv, Israel, 2015.
15. E. Nof*, E. Kochavi, **O. Ram**, O. Sadot, G. Ben-Dor “Exploration of methods in the exploding wire technique for simulating large blasts”, The 30th International Symposium on Shock Waves, Tel-Aviv, Israel, 2015.
16. **O. Ram***, O. Sadot, G. Ben-Dor “A mechanical system approach to study the transient loading of a tunnel end where the flow path is obstructed by stiff Porous barriers” , The 30th International Symposium on Shock Waves, Tel Aviv, Israel, 2015.
17. E. Nof*, E. Kochavi, **O. Ram**, O. Sadot, G. Ben-Dor “Exploration of methods in the exploding wire technique for simulating large blasts” ”, The 23rd International Symposium on Military Aspects of Blast and Shock, Oxford, England, 2014.

18. **O. Ram**^{*}, O. Sadot “Blast wave attenuation by a stiff porous medium protection layer”, The 23rd International Symposium on Military Aspects of Blast and Shock, Oxford, England, 2014.
19. M. Liverts^{*}, **O. Ram**, O. Sadot, G. Ben-Dor “Mitigation of blast-waves by aqueous-foam barriers - implementation of the exploding wire technique”, The 21st International Symposium on the Interaction of Shocks, Riga, Latvia, 2014.
20. **O. Ram**, M.Geva, O. Sadot^{*} “High spatial and temporal resolutions experimental shock-tube system for studying transient shock reflections”, The 21st International Symposium on the Interaction of Shocks, Riga, Latvia, 2014.
21. M.Geva, **O. Ram**, O. Sadot^{*} “Examination of parameters influencing the non-stationary hysteresis reflection phenomenon”, The 21st International Symposium on the Interaction of Shocks, Riga, Latvia, 2014.
22. **O. Ram**^{*}, G. Ben-Dor, O. Sadot “Study of blast wave – structure interaction using a novel exploding wires technique”, The 15th International Symposium on Interaction of the Effects of Munitions with Structures, Potsdam, Germany, 2013.
23. **O. Ram**, O., Sadot^{*}, “Simple methodology for predicting the pressure buildup in a confined volume”, The 29th International Symposium on Shock Waves, Wisconsin, USA, 2012
24. **O. Ram**^{*}, O. Sadot, G. Ben-Dor, A. Levi, G. Golan, E. Ran, F. Aizik, “Study of shock wave attenuation by means of rigid porous foams”, The 22nd International Symposium on Military Aspects of Blast and Shock, Bourges, France, 2012.
25. **O. Ram**^{*}, O. Sadot, “Study of blast wave-structure interaction using exploding wires technique”, The 22nd International Symposium on Military Aspects of Blast and Shock, Bourges, France, 2012.
26. **O. Ram**^{*}, O. Sadot, “Shock waves interaction with porous rigid media”, The 32nd Israeli Conference on Mechanical Engineering, Tel-Aviv, Israel, 2012.
27. **O. Ram**^{*}, O. Sadot, “Experimental study of shock wave interaction with porous stiff media”, The 20th International Symposium on the Interaction of Shocks, Stockholm, Sweden, 2012.
28. A. Abramovich^{*}, R. Shneck, O. sadot, **O. Ram**, A. Ben-Artzy, E. Kahana, "Mechanical and structural characterization of AZ31 magnesium alloy under dynamic loading", The 15st Israel Materials Engineering Conference, Dead Sea, Israel, 2012.
29. T. Bardig^{*}, R. Mor-Yosef, A. Abramovich, **O. Ram**, A. Ben-Artzy, R. Shneck, O. Sadot, E. Kahana, "The influence of alloying elements in magnesium alloys on the mechanical behavior under dynamic loading", The 15st Israel Materials Engineering Conference, Dead Sea, Israel, 2012.
30. **O. Ram**^{*}, B. Ostraich, O. Sadot, "A novel experimental system for blast structure interaction research", The 28st International Symposium on Shock Waves, Manchester, England, 2011.
31. I. Anteby^{*}, O. Sadot, I. Shelef, A. Koyfman, E. Shapiro, **O. Ram**, E. Bushusha, G. Ben-Dor, "Experimental investigation of the mechanical properties of aluminum foam under dynamic load", The 21st Symposium on Military Aspects of Blast and Shock, Jerusalem, Israel, 2010.

32. **O. Ram**^{*}, B. Ostraich, O. Sadot, "A novel system for blast wave-structures interaction studies", 31st Israeli Conference on Mechanical Engineering, Tel-Aviv, Israel, 2010.