
PROFILE SUMMARY

Multidisciplinary Engineer / Scientist with hands-on design, developing and testing experience. Significant achievements and awards in all studied fields (Aerospace Engineering, Mechanical Engineering, Neuroscience and Particle Physics). **Entrepreneurship experience** in an Israeli **biomedical startup**. **Leadership experience** as a platoon sergeant commander in an **elite unit of the Israeli Defense Forces (IDF)**. 2000 mile bicycle exploratory trip to remote areas in South-East Asia. **Multiple languages** and international experience.

EDUCATION

2012 - 2016

Rensselaer Polytechnic Institute (RPI), Troy, NY

Ph.D. Candidate in Aeronautical Engineering

Thesis: "Flow control in a transonic diffuser through mass and vorticity injection to mitigate massive separation" under the advisement of Prof. Michael Amitay

- Top lab in the US in the field of Aerodynamic Flow Control
- Fully funded by from Northrop Grumman Aerospace Systems

2007 - 2012

Ben-Gurion University (BGU), Beer-Sheva, Israel

B.Sc. in Physics

B.Sc. in Mechanical Engineering

- Highly selective, rigorous 4.5 year dual-degree
 - Program has less than a 20% completion rate
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PROFESSIONAL EXPERIENCE

2010 - 2012

CERN – European Organization for Nuclear Research (Geneva, Switzerland)

Experimental Particle Physics Researcher with Prof. Gabor Veres

- Published an academic paper in Physics Letters B
- Measured the inelastic proton-proton cross section at a colliding energy of $\sqrt{s}=7$ TeV
- Member of the Compact Muon Solenoid (CMS) collaboration of the Large Hadron Collider (LHC)
- Invited to collaborate after the 2010 internship in order to obtain additional results

2011 - 2011

MEDESPEL Ltd - Israeli Biomedical Startup based on Patent No.: 8,862,208 B2
Business Development

- Supported with concept of low-cost, compact device, which diagnoses melanoma non-invasively, in real-time
- Established early engagement with multinational biotechnology company and VC groups to seek strategic partnerships and funding
- Defined the technology roadmap and performed market analysis that led to the creation of a business plan

MILITARY EXPERIENCE

2003 - 2006

ISRAEL DEFENSE FORCES – INFANTRY CORPS, SHIMSHON UNIT, Israel

Platoon Sergeant Commander

- Trained and led 30 soldiers in special counter-terrorism unit
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RESEARCH EXPERIENCE

2012 - Current

Rensselaer Polytechnic Institute, Center for Flow Physics and Control

- Leading technology development for Northrop Grumman's first research program in active flow control
- Managed a team of students to design and build a modular transonic wind tunnel for Northrop Grumman Aerospace Systems
- Collaborated through biweekly coordination meetings with senior level management and engineering teams at Northrop Grumman Aerospace Systems and University of Colorado at Boulder

2008 - 2012

Ben-Gurion University, Laboratory of Turbulent Multiphase Flows

Research Assistant under the advisement of Prof. Tov Elperin

- Best Senior Thesis Award (Chosen 1st out of 174 students)
 - Investigated particle transport in stratified turbulence both theoretically and experimentally
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- 2011 - 2011** **Soroka Medical Center, Laboratory for Experimental Neurosurgery (Beer-Sheva, Israel)**
Research Assistant under the advisement of Prof. Alon Friedman – **Summer Intern**
- Designed and built an innovative experimental setup to prevent epileptic seizures through optical control of brain activity
 - Reduced the cost of the experimental setup from \$15,000 to \$50
- 2010 - 2010** **CERN – European Organization for Nuclear Research (Geneva, Switzerland)**
Experimental Particle Physics Student under Prof. Gabor Veres – **Summer Intern**
- Performed data analysis at the CMS detector of the Large Hadron Collider (LHC)
 - Attended lecture series in particle physics applications
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LEADERSHIP EXPERIENCE

- Commanding, training and leading 30 soldiers with no room for failure under high-pressure situations
 - Leading teams of undergraduate students during my PhD to assist in tasks such as design / build / test / analyze
 - Certificate of completion for significant contributions to the Spring 2014 Professional Leadership Series presented by the Archer Center at RPI
 - Divemaster Scuba diving (professional rating under PADI requiring dive leadership skills)
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TEACHING EXPERIENCE

- 2012 - 2016** **Rensselaer Polytechnic Institute, Mechanical Engineering Department**
Teaching Assistant
- Fluid Dynamics Laboratory
 - Thermal and Fluids Engineering Laboratory
- 2011 - 2012** **Shamoon College of Engineering (Beer-Sheva, Israel)**
Lecturer / Lab Instructor / Teaching Assistant
- Recruited as an undergraduate student
 - Taught B.Sc. students in Mechanical Engineering a total of 6 classes - 3D Printing Laboratory; Computer Integrated Manufacturing Laboratory; Fluid Mechanics 1; Fluid Mechanics 2; Machine Design; Casting Laboratory
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HONORS AND AWARDS

- 2014 American Physical Society – Grant to attend the 2014 annual meeting in Fluid Dynamics hosted at San Francisco, CA
- 2012 Best Senior Thesis Award (Chosen 1st out of 174 students) in the Mechanical Engineering Department at Ben-Gurion University
- 2011 Zlotowski Scholarship of Excellence Award in Neuroscience
- 2010 1 of 3 students selected nationwide to represent Israel at CERN's summer program
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SKILLS

- Certified LabVIEW Associate Developer (CLAD)
- Solidworks, NX Unigraphics, C, Matlab, Maple, Tecplot, Origin, Latex, Linux
- Wind Tunnel Experiments, CAD, CFD

LANGUAGES Fluent English, Native French, Native Hebrew

NATIONALITY **U.S. Citizen** – French – Israeli

PUBLICATIONS

1. J. Gartner and M. Amitay. "Effect of boundary layer thickness on secondary structures in a short inlet curved duct." *International Journal of Heat and Fluid Flow* 50 (2014): 467-478.
2. CMS Collaboration, "Measurement of the inelastic proton-proton cross section at $\sqrt{s}=7$ TeV." *Physics Letters B*, Volume 722, Issues 1–3, Pages 5-27, (2013) 0370-2693.
3. J. Gartner, "Investigation of Hydrodynamics and Particle Transport in Stably Stratified Turbulence." Senior Thesis, Mechanical Engineering Department, Ben-Gurion University, (2011).

CONFERENCES PROCEEDINGS

1. J. Gartner and M. Amitay, "Flow Control in a Diffuser at Transonic Conditions." *AIAA Aviation*, Dallas, TX, June 2015.
 2. J. Gartner and M. Amitay, "Flow Control in a Short Transonic Diffuser." *Proceedings of the 2015 - 1000 Islands Fluid Mechanics Meeting*, Gananoque, ON, Canada, May 2015.
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3. J. Gartner and M. Amitay, "Flow Control in a Transonic Diffuser." *Bulletin of the American Physical Society, Volume 59, Number 20*, San Francisco, CA, November 2014.
4. J. Gartner and M. Amitay, "Transonic Flow in a Diffuser." *Proceedings of the 2014 - 1000 Islands Fluid Mechanics Meeting*, Gananoque, ON, Canada, May 2014.
5. J. Gartner and M. Amitay, "Effect of Boundary Layer Thickness on Secondary Structures in a Short Inlet Curved Duct." *Bulletin of the American Physical Society, Volume 58, Number 18*, San Francisco, CA, November 2014.
6. J. Gartner, I. Salvador, and M. Amitay, "Effect of Boundary Layer Thickness on Secondary Structures in Short Inlet Ducts." *Proceedings of the 2013 - 1000 Islands Fluid Mechanics Meeting*, Gananoque, ON, Canada, April 2013.
7. J. Gartner, "Optic Control of Brain Activity." *Annual Seminar of the Zlotowski Center for Neuroscience at Ben-Gurion University*, 2011.