

October 13, 2020

## RESUME

Full name: **Leonid Tartakovsky**

Phone number: 04-8292077

Email: [tartak@technion.ac.il](mailto:tartak@technion.ac.il)

ORCID iD: <https://orcid.org/0000-0003-1364-2689>

### ACADEMIC DEGREES

1980 M.Sc. *summa cum laude (1<sup>st</sup> in the class)* in Mechanical Engineering, Moscow Automotive Mechanical Institute, USSR.  
Specialization: Internal Combustion Engines

1986 PhD in Mechanical Engineering,  
Central Automobile and Automotive Engines Research Institute (NAMI), Moscow, USSR.  
Specialization: Heat Engines

### ACADEMIC APPOINTMENTS

Oct 2019 – present *Associate Professor (tenured)*, Faculty of Mechanical Engineering, Technion - Israel Institute of Technology, Haifa, Israel

2013 – 2019 *Senior Research Fellow*, Faculty of Mechanical Engineering, Technion - Israel Institute of Technology, Haifa, Israel

2002 - 2013 *Adjunct Senior Lecturer*, Faculty of Mechanical Engineering, Technion - Israel Institute of Technology, Haifa, Israel

Aug-Oct 2003 *Visiting scientist*, Environmental Studies & Testing Laboratory, TNO Automotive, TNO – Netherlands Organization for Applied Scientific Research, Delft, the Netherlands

1994 - 2002 *Adjunct Lecturer*, Faculty of Mechanical Engineering, Technion - Israel Institute of Technology, Haifa, Israel

1992 - 1996 *Research Associate*, Center of Energy and Environmental Engineering, Faculty of Mechanical Engineering, Technion - Israel Institute of Technology, Haifa, Israel

1983 - 1991 *Senior Research Fellow*, Department of Engines and Vehicle Emissions, Research Center for Testing and Refining of Motor Vehicles, Moscow, USSR.

Leonid TARTAKOVSKY

1982 - 1983                      *Junior Research Associate*, Department of automotive engines, Central Automobile and Automotive Engines Research Institute (NAMI), Moscow, USSR.

### **PROFESSIONAL EXPERIENCE**

Oct 2013 – present              *Director, Internal Combustion Engines Laboratory*, Center for Research in Energy Engineering and Environmental Conservation, Faculty of Mechanical Engineering, Technion - Israel Institute of Technology, Haifa, Israel

1996 - 2013                      *Chief Engineer, Internal Combustion Engines Laboratory*, Center of Energy and Environmental Engineering, Faculty of Mechanical Engineering, Technion - Israel Institute of Technology, Haifa, Israel

1987 - 1991                      *Head, Engine Research Laboratory*, Department of Engines and Vehicle Emissions, Research Center for Testing and Refining of Motor Vehicles, Moscow, USSR.

### **RESEARCH INTERESTS**

Thermofluids

Energy conversion in hybrid fuel cell – ICE systems

Waste heat recovery in electric, hybrid and motor vehicles

Thermochemical recuperation

Combustion in Internal Combustion Engines

UAV propulsion

Alternative fuels

Fuel-air mixing

Pollutants formation and emissions from mobile sources

### **TEACHING EXPERIENCE**

2017 – 2018                      *Advanced Automotive Propulsion Systems 036080*, graduate/undergrad (winter semester, through the Continuous and External Education Unit)

2014 – Present                      *Thermodynamics-1 034035*, undergraduate

1998 – Present                      *Introduction to Internal Combustion Engines 035146*, undergraduate

2006 – Present                      *Supervision of senior student projects 034319/20, 034325/6, 034355/6, 034379/80*, undergraduate

Leonid TARTAKOVSKY

2013 – Present Internal Combustion Engine Fundamentals 036082, graduate/undergrad (I taught this course since 2011 as Selected Topics in Mechanical Engineering)  
1996 – 2013 Internal Combustion Engines Laboratory 034411, undergraduate  
2010 – 2013 Advanced Energy Laboratory 034410, undergraduate

### **Newly developed courses and programs**

1. 2013, Internal Combustion Engine Fundamentals 036082, graduate/undergrad
2. 2013, Advanced Automotive Propulsion Systems 036080, graduate/undergrad (jointly with Prof. Shapiro) – is taught by Dr. D. Kottick from Spring 2014 under general supervision of Dr. Tartakovsky in the framework of the Interdisciplinary ME Program on Automotive Systems Engineering
3. 2013, Control of Vehicle Emissions 036079, graduate/undergrad (jointly with Prof. Shapiro) – is taught by Dr. E. Berlin from Spring 2014 under general supervision of Dr. Tartakovsky in the framework of the Interdisciplinary ME Program on Automotive Systems Engineering
4. 2013, Laboratory on Advanced Propulsion Systems 036078, graduate/undergrad (jointly with Prof. Shapiro) – in the process of laboratory equipping with necessary experimental setups
5. Interdisciplinary Program of ME in Automotive Systems Engineering (In cooperation with Prof. Shmulevich and Prof. Shapiro) – finally approved in May 2015.

### **TECHNION ACTIVITIES**

2013– 2014 *Coordinator* of the Technion's GTEP Hybrid Vehicle Technologies Program. Submitted for securing financial support in 2014

Oct 2013– present *Chairman*, Interdisciplinary Committee on Automotive Systems Engineering. In charge of the Interdisciplinary ME Program on Automotive Systems Engineering

2014 – present *Member*, Technion Transportation Research Institute

2015 – present *Member (representative of the Faculty of Mechanical Engineering)*, Technion Energy Team - TET, Grand Technion Energy Program - GTEP

### **DEPARTMENTAL ACTIVITIES (Faculty of Mechanical Engineering)**

2012 – present Student Seminars on Advanced Propulsion Systems

2013 – 2020 Supervision, Propulsion Groups of the Formula-SAE Student projects

2014 – 2019 Chairman, Faculty Committee on Safety

Leonid TARTAKOVSKY

- 2014 – 2019 Member, Forum of Academia-Industry Relationship
- 2015 – present Member, Steering Committee, Research Center for Energy Engineering and Environmental Preservation
- 2020 – present Academic supervisor, Technion Formula-Student project

## **PUBLIC PROFESSIONAL ACTIVITIES**

### **Editor:**

- 2014 *Guest Editor*, Special Issue on Low Carbon and Energy Efficient Road Vehicles, Energy and Power, 4(1A), published in 2014. DOI: 10.5923/s.ep.201401
- 2017 *Associate Editor*, SAE International Journal of Fuels and Lubricants. Publisher - SAE International
- 2016 – present *Associate Editor*, SAE International Journal of Engines. Publisher - SAE International
- 2018 *Guest Editor*, Special Issue on UAV Propulsion, Drones. Publisher – MDPI. [http://www.mdpi.com/journal/drones/special\\_issues/propulsion?view=default&listby=date](http://www.mdpi.com/journal/drones/special_issues/propulsion?view=default&listby=date)
- 2020 *Guest Editor*, Special Issue on Recent Advances in Internal Combustion Engines, Energies. Publisher – MDPI. [https://www.mdpi.com/journal/energies/special\\_issues/Internal\\_Combustion](https://www.mdpi.com/journal/energies/special_issues/Internal_Combustion)
- 2020 – present *Handling Editor*, Non-event SAE Technical Papers. Publisher – SAE International

### **Editorial board:**

- 2012 – Resigned in 02/ 2016 American Journal of Mechanical Engineering. Science and Education Publisher
- 2014 – Resigned in 02/ 2016 International Journal of Automobile Engineering Research and Development. Transstellar Journal Publications
- 2015 – present International Journal of Vehicle Systems Modelling and Testing. Inderscience Publishers
- 2019 – present Frontiers in Future Transportation: Transportation Emissions. Publisher – Frontiers
- 2020 – present Clean Technologies. Publisher – MDPI

**Public professional committees:**

2018 – present	<i>Member</i> , Thermal Management Activity Committee, SAE International
2018 – present	<i>Member</i> , SAE Engine Combustion Committee, SAE International
2017	<i>Foreign Member</i> , Board of Examiners of the PhD thesis, Indian Institute of Technology, Guwahati, India
2017 – present	<i>Member</i> , Central Committee 6300 on Vehicles, the Standards Institution of Israel
2016 – 2018	<i>Chairman</i> , SAE Committee on New Engines, Components, Actuators and Sensors, SAE International <sup>1</sup>
2017 – 2018	<i>Member</i> , Executive Committee, SAE Powertrain, Fuels & Lubricants Activity, SAE International
2016	<i>Member</i> , SAE Committee on New Engines, Components, Actuators and Sensors, SAE International
2014 – 2016	<i>Liaison member</i> (as a Chairman of the SAE SETC Technical Committee), Executive Committee, SAE Powertrain, Fuels & Lubricants Activity, SAE International
2014 - 2016	<i>Chairman</i> , SAE Technical Committee, Small Engine Technology Conference (SETC), SAE International
2014	<i>Foreign Member</i> , Board of Examiners of the PhD thesis, National Institute of Technology, Warangal, India
2012 – 2017	<i>Vice-Chairman</i> , Technical Committee 1317 on Electric Vehicle, the Standards Institution of Israel
2010 – 2012	<i>Member (Technion representative)</i> , Technical Committee 1317 on Electric Vehicle, the Standards Institution of Israel
2003 – present	<i>Member</i> , Committee on Automotive Engineering, Association of Engineers, Architects and Graduates in Technological Sciences in Israel

---

<sup>1</sup> **SAE International**, initially established as the **Society of Automotive Engineers**, is a U.S.-based, globally active professional association and standards developing organization for engineering professionals in various industries. Principal emphasis is placed on transport industries such as automotive, aerospace, and commercial vehicles.

Leonid TARTAKOVSKY

- 2002 - 2005      *Member (Israeli representative), EU COST 346 Action "Emissions and Fuel Consumption from Heavy Duty Vehicles" Management Committee, Appointed by the Ministry of Science*
- 2001              *Israeli representative at the EU PREMTECH (Advanced propulsion systems and emission reduction technologies) final dissemination event. Appointed by the Ministry of Transportation*

**Reviewing and Refereeing:**

UNEP Intergovernmental Panel on Climate Change (IPCC); Measurement Science and Technology; Industrial & Engineering Chemistry Research; International Journal of Energy Engineering; Energy and Power; American Journal of Environmental Engineering; International Journal of Energy Research; International Journal of Traffic and Transportation Engineering; SAE Technical Papers; Energy; Environmental Science & Technology; Resources and Environment; Walailak Journal of Science and Technology; British Journal of Applied Science & Technology; Energy Efficiency; Journal of Mechanical Design and Vibration; Transport problems; Journal of Mechanical Engineering Research; International Journal of Vehicular Technology; Atmospheric Pollution Research; American Journal of Mechanical Engineering; International Journal of Hydrogen Energy; Fuel; International Journal of Vehicle Systems Modelling and Testing; Atmospheric Environment; SAE International Journal of Engines; International Journal of Chemical Engineering; Israel Ministry of Science, Technology and Space; Advances in Engineering Software; Catalysts; International Journal of Environment and Waste Management; Applied Energy; Journal of the Air & Waste Management Association; Indoor Air; International Journal of Environmental Research and Public Health; Arabian Journal for Science and Engineering; Sustainability; Proceedings of the IMechE, part D: Journal of Automobile Engineering; Energies; Applied Sciences; Energy & Fuels; Environmental Pollution; Environmental Pollution Research; Journal of Hazardous Materials; Experiments in Fluids; Thermal Science; Experimental Thermal and Fluid Science; Applied Thermal Engineering; **Progress in Energy and Combustion Science**; Energy Conversion & Management; Chemical Engineering Science; Renewable & Sustainable Energy Reviews; Environmental Science and Pollution Research; U.S. Dept. of Agriculture (Small Business Innovation Research Program); Engineering and Applied Science Research; Journal of Physics: Energy; International Journal of Heat and Mass Transfer; Journal of the Energy Institute; Fuel Processing Technology; Environmental Engineering Science; Proceedings of the Combustion Institute; Open Chemistry; Case Studies in Thermal Engineering; Energy Sources, Part A: Recovery, Utilization, and Environmental Effects

**Invited lectures and courses (not at conferences):**

1. L. Tartakovsky\*, Internal combustion engines for combat vehicles, *Course of Lectures* invited by the Israeli Ministry of Defense, Tel-Aviv, August 2010.
2. L. Tartakovsky\*, Motor vehicles fueled by natural gas – a potential of use in Israel, Israeli Ministry of National Infrastructures, Tel-Aviv, December 2010.
3. L. Tartakovsky\*, Natural gas as automotive fuel – a potential of use in Israel, Israeli Institute of Energy and Environment, Tel-Aviv, April 2011.

4. L. Tartakovsky\*, Heavy duty diesel engines for military applications – latest technology trends, Israeli Ministry of Defense, Yehud, May 2013.
5. L. Tartakovsky\*, Combustion processes and pollutants formation in internal combustion engines, Lecture in the *Course on Air Quality and Climate Change*, Israeli Ministry of Environment Protection, Tel-Aviv, February 2014.
6. L. Tartakovsky\*, Diesel exhaust aftertreatment systems – implementation in in-use heavy-duty diesel vehicles, Lecture in the *Seminar on Implementation of Orders for Reduction of Air Pollution by Heavy-Duty Vehicles*, Israeli Ministry of Environment Protection, Tel-Aviv, November 30, 2014.
7. L. Tartakovsky\*, Internal combustion engine fundamentals, Lecture in the *Course on Air Quality and Climate Change*, Israeli Ministry of Environment Protection, Tel-Aviv, December 15, 2014.
8. L. Tartakovsky\*, Internal combustion engines – fundamentals and technology trends, *Israeli Ministry of Defense*, Tel-Aviv, March 23 2015.
9. L. Tartakovsky\*, Control and mitigation of pollutant emissions from road vehicles, Lecture in the *Course on Air Quality and Climate Change*, Israeli Ministry of Environment Protection, Tel-Aviv, November 9, 2015.
10. L. Tartakovsky\*, Combustion concepts of internal combustion engines, Lecture in the *Course on Air Quality and Climate Change*, Israeli Ministry of Environment Protection, Tel-Aviv, November 9, 2015.
11. L. Tartakovsky\*, Control of Pollutant Emissions by Road Transport. Guest Lecturer, *International Course on Environment and Health: Exposures from Transportation and Urban Form*, Summer Institute of Advanced Epidemiology and Preventive Medicine, School of Public Health, Sackler Faculty of Medicine, Tel-Aviv University, July 20, 2016.
12. L. Tartakovsky\*, Pollutants formation in internal combustion engines, Lecture in the *Course on Air Quality and Climate Change*, Israeli Ministry of Environment Protection, Tel-Aviv, March 15, 2017.
13. L. Tartakovsky\*, Internal combustion engine fundamentals, Lecture in the *Course on Air Quality and Climate Change*, Israeli Ministry of Environment Protection, Tel-Aviv, March 15, 2017.
14. L. Tartakovsky\*, Heavy duty diesel engines for heavy-duty military vehicles – fundamentals and technology trends, Israeli Ministry of Defense, Yehud, June 18, 2017.
15. L. Tartakovsky\*, Engines and Fuel Alternatives, Series of lectures (10 hours) in the *Course on a Vehicle and Smart Transportation*, MoreTech - National Teachers' Center of Technological Sciences, Technion, Haifa, March 12 – 19, 2019.
16. L. Tartakovsky\*, Fundamentals and development trends of internal combustion engines, Israeli Ministry of Defense, Yehud, July 28, 2019.

**Formal seminars:**

1. L. Tartakovsky\*, Assessment of emissions by motor vehicles using remote sensing technology, *Bern University of Applied Sciences*, Biel, Switzerland, March 2002.
2. L. Tartakovsky\*, Drivers' exposure to air pollution inside a car, the *Academic College Hadassah*, Jerusalem, March 7, 2012.
3. L. Tartakovsky\*, Engine waste heat recovery by thermo-chemical recuperation of exhaust gas heat, *Ariel University*, July 2013.
4. L. Tartakovsky\*, High-pressure thermo-chemical recuperation for waste heat recovery of internal combustion engines, Department of Vehicle Engineering, *Beijing Institute of Technology (BIT)*, Beijing, China, November 13, 2015.
5. L. Tartakovsky\*, Waste heat recovery of internal combustion engine for high energy efficiency and ultra-low emissions, Department of Vehicles and Transportation Engineering, *China Agricultural University*, Beijing, China, November 13, 2015.
6. L. Tartakovsky\*, High-pressure thermo-chemical recuperation for waste heat recovery in internal combustion engines, The Department of Mechanical Engineering, College of Engineering and Applied Sciences, *Stony Brook University*, USA, April 18, 2016.
7. L. Tartakovsky\*, High-Pressure Thermo-Chemical Recuperation for efficiency improvement and emissions reduction in internal combustion engines, Faculty of Mechanical Engineering and Transport Systems, *Technical University of Berlin*, Germany, March 10, 2017.
8. L. Tartakovsky\*, High-Pressure Thermochemical Recuperation paves a way toward sustainable propulsion systems. *University of Bologna*, Italy, September 24, 2018.

**Consulting activities:**

2015	Haifa District Municipal Association for Environmental Protection (Mitigation of pollutant emissions by heavy-duty municipal vehicles)
2013	Israeli Ministry of Energy and Water Resources, Kivun Ltd (Advanced vehicle propulsion systems)
1998 – present	Israeli Ministry of Environmental Protection (Pollutant emissions by motor vehicles)
2007 – present	MAFAT, Israeli Ministry of Defense (Performance analysis of UAV engines)
2010 - 2011	Aeronautics Defense Systems (Failure analysis of UAV engines)
2007 - 2009	Aeronautics Defense Systems (Cooling problems of UAV engines)
2009	Israeli Ministry of Defense (Performance analysis of tank engines)
2005 – 2007	Israeli Ministry of Defense (Failure analysis of tank engines)
2003	Israeli Ministry of Transportation (Smoke measurement procedure for Diesel engine vehicles)



**MEMBERSHIP IN PROFESSIONAL SOCIETIES**

- SAE International
- ASME – American Society of Mechanical Engineers
- IAHE – International Association of Hydrogen Energy

**FELLOWSHIPS, AWARDS & HONORS**

- 2019 Best Poster Award (1<sup>st</sup> prize) at the 33<sup>rd</sup> Symposium of the Israeli Section of the Combustion Institute for the research “Reforming-controlled compression ignition with OME<sub>1</sub>”, Tel-Aviv, December 26, 2019 (together with D. Buntin)
- 2019 SAE Top Contributor (inaugural Top Contributors class, 48 people from around the world were selected, of whom only 4 were from outside the US)
- 2018 Forest R. McFarland Award for outstanding key contribution to SAE/JSAE Small Engine Technology Conference, SAE International
- 2018 Certificate for outstanding service to SAE as Chair, New Engines, Components, Actuators and Sensors Committee 2016-2018
- 2015 – 2018 Outstanding Reviewer, Citation, Elsevier:  
  
Energy – 2015, 2017; Fuel – 2016; Environmental Pollution – 2017; Experimental Thermal and Fluid Science – 2018; Chemical Engineering Science – 2018; Applied Thermal Engineering – 2018; Energy Conversion and Management – 2018; International Journal of Hydrogen Energy – 2018
- 2017 Best Poster Award (3<sup>rd</sup> place) at the 21<sup>st</sup> International Conference on Combustion Generated Nanoparticles for the research “A comparative analysis of ultrafine particles air pollution inside diesel-propelled trains and intercity buses”, ETH, Zurich, June 19-22 (together with V. Abramesko, J. Czerwinski and A. Mayer)
- 2016 Certificate for distinguished service to SAE as Chair, Small Engine Technology Conference Technical Committee 2014-2016
- 2010, 2012, 2013, 2016: Excellence in Teaching, Citation, Technion
- 2016 SAE Fellow, SAE International
- 2014 Uzi & Michal Halevy Grant for Innovative Applied Engineering Research, Technion

- 1998 Science on Service of Environment – Leading Research Projects in the field. Israeli Ministry of Environment, Special Jubilee edition of selected studies (together with Y. Zvirin, M. Gutman, E. Golgotiu, Y. Aleinikov)

**GRADUATE STUDENTS and TRAINEES** (Responsible and only supervisor, unless stated otherwise)

**Completed PhD theses**

1. *Arnon Poran*, 2018, "Engine Waste Heat Recovery through High-Pressure Methanol Steam Reforming", consultant - Prof. M Shapiro, PhD in the Grand Technion Energy Program, direct track to doctorate, *REAMIM Program for distinguished students*; **Summa Cum Laude** – 2012; *Jacobs scholarship for academic excellence* – 2013; *Fein scholarship for academic excellence* – 2014; *Rieger Foundation-Jewish National Fund Fellow in Environmental Studies* – 2015, 2016; *MOST scholarship for PhD students and post-docs in oil replacements for transportation* – 2015; *Best Poster Award 5<sup>th</sup> Conference on UAV Propulsion Technologies* - 2016 [J14<sup>2</sup>, Cp11<sup>3</sup>, P6, J18, J20, J22, C37<sup>4</sup>, C39, J25, J37]. Current position: researcher, RAFAEL.

**Completed MSc theses**

1. *Nir Tsabar*, 2002, "Oxygen enrichment of intake air for improving the performance of internal combustion engines and reducing the emission of pollutants", additional supervisor, responsible supervisor - Prof. Y Zvirin. Today – Dr. Nir Tsabar is a Faculty Member at Ariel University.
2. *Shai Bengio*, 2010, "Remote sensing of emissions by diesel engine vehicles", additional supervisor, responsible supervisor - Prof. Y Zvirin, [P5]<sup>5</sup>. Current position: Major, Section Head, IDF.
3. *Iliya Shir*, 2010, "Remote sensing of emissions from vehicles with spark ignition engines", additional supervisor, responsible supervisor - Prof. Y Zvirin, [P5]. Current position: Major, Section Head, IDF.
4. *Jonathan Tenenbaum*, 2013, "Formulation of an improved dynamic model of fuel injection in DI diesel engine", additional supervisor, responsible supervisor - Prof. M Shapiro, *BRAKIM Student – a special B.Sc. & M.Sc. program for distinguished students*, [J15, C30]. Current position: Freelancer, in the process of establishment a new startup company on a novel ICE engine.
5. *Yuri Shukhman*, 2014, "Study of internal combustion engine's sensitivity to ambient conditions", additional supervisor, responsible supervisor - Prof. M Shapiro, [J11]. Current position: Major, Section Head, IDF.
6. *Ahmad Omari*, 2015, "Laminar burning velocity measurements of alcohol steam reforming products", additional supervisor - Prof. M Shapiro, MSc in the Grand Technion Energy

---

<sup>2</sup> Publications with students, [J9] – position #9 in the list of refereed papers in professional journals

<sup>3</sup> Publications with students, [Cp11] – position #1 in the list of plenary lectures

<sup>4</sup> Publications with students, [C37] – position #37 in the list of lectures at international conferences

<sup>5</sup> Patents with students, [P5] – position #5 in the list of patents

- Program, *REAMIM Program for distinguished students, Summa Cum Laude – 2012, Wolberg excellence award, Technion VP award for the Technion-Formula initiative, VATAT Scholarship, Ministry of Energy and Water Resources Scholarship – 2013* [J19, J38]. Current position: PhD student at the Institute of IC Engines, RWTH Aachen University (Germany).
7. *Or Cesana*, 2016, "Internal Combustion Engine with thermochemical recuperation fed by ethanol steam reforming products", additional supervisor - Prof. M Shapiro, *BRAKIM Student – a special B.Sc. & M.Sc. program for distinguished students* [CP32]<sup>6</sup>. Current position: Officer in the Tank Powertrains section, IDF.
  8. *Rafael Fleischman*, 2016, "Pollutant emissions of SI engine fed by the methanol reforming products", *HIAS scholarship for academic achievements and community service – 2014, Selim and Rachel Benin scholarship – 2014* [J23, J39, CP30, CP31, C29, C32, C33]. Current position: Head of Vehicle Emissions section, Ministry of Environmental Protection.
  9. *Jonathan Fuchs*, 2017, "Phase Change Material Engine for Micro Air Vehicle", additional supervisor, responsible supervisor - Prof. E. Sher. Current position: Engineer at RAFAEL.
  10. *Ran Amiel*, 2017, "Study of knock formation in the UAV engine" [J23, J37, J39, J40, CP31, C33]. Current position: Automotive engineer, Mobileye.
  11. *Guy Ben Haim*, 2018, "HCCI combustion in a Wankel type internal combustion engine" [C40]. Current position: Propulsion engineer, Elbit Systems.
  12. *Galia Faingold*, 2018, "Computational fluid dynamics modeling of reformat fuel mixing and combustion in IC engine", additional supervisor, responsible supervisor – Prof. S. Frankel. *Best Poster Award (2<sup>nd</sup> prize) 7<sup>th</sup> Conference on UAV Propulsion Technologies – 2018; Best Poster Award (1<sup>st</sup> prize) SAE Waste Heat Recovery Symposium – 2018* [J26].
  13. *Ilya Chanin*, 2019, "Performance and emissions (emphasis on nanoparticles) of a diesel engine fed by the alternative renewable fuel Dimethyl-Ether (DME)" [C44]. Current position: Propulsion engineer, Alstom Israel.

### **PhD theses in progress**

1. *Andy Thawko*, started in October 2017, "Atomization and mixing alcohol reforming products in the combustion chamber of internal combustion engine", Grand Technion Energy Program. *Best Poster Award (3<sup>rd</sup> prize) 7<sup>th</sup> Conference on UAV Propulsion Technologies – 2018; Best Poster Award (2<sup>nd</sup> prize) SAE Waste Heat Recovery Symposium – 2018; VATAT scholarship for academic excellence - 2018* [J25, J29, J43, J44, J45, J48, CP34, C39, C43, C44, C46]. Expected year of graduation – 2021.
2. *Amnon Eyal*, direct track to doctorate, started in December 2016, "Management of the HCCI process by control of the alcohol reforming products composition", PhD in Mechanical Engineering Program. *Faculty scholarship for academic excellence – 2017, 2020; Best Poster Award (3<sup>rd</sup> prize) SAE Waste Heat Recovery Symposium – 2018; Best Poster Award (1<sup>st</sup> prize) 8<sup>th</sup> Conference on UAV Propulsion Technologies – 2019* [J25, J29, J30, J42, J45, J49, C35, C42, C47, CP34]. Expected year of graduation – 2020.
3. *David Diskin*, started in October 2018, "Efficiency limits of propulsion systems based on Internal Combustion Engine with Waste Heat Recovery", PhD in Mechanical Engineering

---

<sup>6</sup> Papers with students in Proceedings of International Conferences, [CP32] – position #32 in the list of papers

Program. *REAMIM Program for distinguished students; Summa Cum Laude – 2015* [J46]. Expected year of graduation – 2022.

4. *Dennis Buntin*, direct track to doctorate, started in December 2019, “Combustion Characteristics Investigation of OME Fuels for an HCCI Engine with Thermo-Chemical Recuperation”. *Best Poster Award (1<sup>st</sup> prize) 7<sup>th</sup> Conference on UAV Propulsion Technologies – 2018; Best Poster Award (1<sup>st</sup> prize) 33<sup>rd</sup> Annual Symposium of the Israeli Section of the Combustion Institute* [J47, C48, C50]. Expected year of graduation – 2023.

### **MSc theses in progress**

1. *Aviad Haviv*, started in 2015, expected year of graduation – 2020, "Performance improvement of UAV engines at high altitudes", *BRAKIM Student – a special B.Sc. & M.Sc. program for distinguished students*.
2. *Asher Netszer-Lichinitser*, started in 2018, expected year of graduation – 2021, “Injector for direct injection of hydrogen-rich reformat in an internal combustion engine”.
3. *Adi Zur*, started in 2019, expected year of graduation – 2021, “Study and development of a compact methanol - steam reformer for internal combustion engine with High Pressure Thermochemical Recuperation”, additional supervisor - Prof. M Shapiro. *Best Poster Award (3<sup>rd</sup> prize) 9<sup>th</sup> Conference on UAV Propulsion Technologies – 2020*
4. *Kadmiel Karsenty*, started in 2019, expected year of graduation – 2021, “A diesel engine with a catalytic piston surface to propel small aircraft at high altitudes – a theoretical study”, additional supervisor, responsible supervisor – Prof. E. Sher [C49].
5. *Shimon Pisnoy*, started in 2019, expected year of graduation – 2022, “Numerical investigation of combustion process and gas exchange in a rotary engine”.

### **ME students**

#### Completed:

1. *Tamir Shemesh*, 2012, "Thermodynamic analysis of internal combustion engine fed by ethanol decomposition products". Current position: Officer, IDF.
2. *Avihai Levi*, 2013, "Fuel injection system for SI engine fed by alcohol reforming products". Current position: Mechanical Engineer, Rafael – Advanced Defense Systems Ltd.
3. *Doron Popescu*, 2015, "Measurement and analysis of engine's combustion characteristics", [J7, J10, J12, CP25, CP26]. Current position: Development Engineer, Robert Bosch GmbH, Germany.
4. *Sergei Irlin*, 2015, "Direct injection of gaseous fuel in SI engines". Current position: Mechanical Engineer, ISCAR.
5. *Victoria Abramesco*, 2016, "Air pollution by nanoparticles in a train car and the Tel-Aviv Ha-Shalom Train Station". *3<sup>rd</sup> Best Poster Award 21<sup>st</sup> Conference on Combustion Generated Nanoparticles, ETH, Switzerland - 2017* [J21, CP33, C38].
6. *Yarden Harpaz*, 2016, "Nanoparticles characterization and morphology analysis". Current position: Officer, IDF.

7. *Inna Zahor*, 2016, "Knock in a spark ignition engine and ways of its prevention". Current position: Mechanical Engineer (responsible for air pollution reduction), IAI Ltd.
8. *Gilad Openhaim*, 2016, "Study of air pollution by nitrogen oxides in a train car and the Tel-Aviv Ha-Shalom Train Station". Current position: Officer, IDF.
9. *Omer Ventura*, 2017, "Flame development and propagation in a system with multiple ignition sources". Current position: Automotive Systems Engineer, Elbit Systems.
10. *Anatoly Neiman*, 2017, "Measurements of nitrogen oxides air pollution at Jerusalem Central Bus Station". Current position: Officer (propulsion engineer), IDF
11. *Yakov Shem Tov*, 2018, "Vehicle emissions control – legislation, technologies and main trends".
12. *Yuval Zvi*, 2018, "Influence of a modified engine intercooler on maximal power of the turbocharged diesel engine Ford Puma 2.4".
13. *Alexey Galianov*, 2018, "Influence of fuel supply method (direct injection and fumigation) on pollutant emission of internal combustion engine with thermo-chemical recuperation of waste heat".

*In progress*

14. *Avi Gabai*, started in November 2019, "Study of the effects of in-cylinder reforming on the performance of UAV engine".
15. *Eyal Ofek*, started in November 2019, "Study of hydrogen addition influence on the efficiency of UAV engine"

**Graduate Students' supervision as a consultant**

1. *Gil Golan, M.Sc.*, 1997, "Experimental and theoretical investigation of temperature and stress fields in internal combustion engines", primary supervisor - Prof. Y Zvirin. Current position: Director, Advanced Technical Center – Israel, General Motors.
2. *Essam Totari, M.Sc.*, 1998, "Measurement of particulates emission from diesel engine by dilution tunnel", primary supervisor - Prof. Y Zvirin. Current position: Dr. Totari teaches at the Technion and various Colleges.
3. *Yitshak Harpaz, M.Sc.*, 1998, "Introduction of methanol into the intake air of diesel engine for combustion improvement", primary supervisor - Prof. Y Zvirin.
4. *Avner Flor, M.Sc.*, 2003, "Use of gas as alternative fuel for vehicles in Israel", primary supervisor - Prof. Y Zvirin, additional supervisor - Prof. J. Dayan, [C16]. Current position: Senior Deputy Director-General, Ministry of Transportation.
5. *Alon Davidy, PhD.*, 2004, "Theoretical and experimental study of remote sensing for measuring emission of pollutants", primary supervisor - Prof. Y Zvirin, [C10, C22]. Current position: Senior researcher, Israel Military Industries.

**POST-DOCTORAL ASSOCIATES**

1. Dr. Harekrishna Yadav, December 2017 – October 2019, PhD, Indian Institute of Technology Bombay, India (with Prof. M. Shapiro) [J29, J44, J48, CP34, C43, C44].

**RESEARCH GRANTS (Participation as PI or Co-PI)**

**Competitive**

- 2000-2004: Israeli Ministry of Environment, \$65,000, Reduction of pollutants emissions from diesel bus engines by using oxidation catalysts and particulate traps. Co-Principal Investigator, PI: Y. Zvirin.
- 2001-2004: Israeli Ministry of Environment, \$ 44,000, Assessment of emission factors of diesel trucks in Israel. Co-Principal Investigator, PI: Y. Zvirin.
- 2007-2008: Israeli Ministry of Environment, \$25,000, Development of an outline for a standard for emissions test of in-use two- and three-wheel vehicles. Co-Principal Investigator, PI: Y. Zvirin.
- 2006-2008: Israeli Ministry of Environmental Protection, \$36,000, Experimental assessment of in-use catalytic converters efficiency. Co-Principal Investigator, PI: Y. Zvirin.
- 2012-2014: Israeli Ministry of Environmental Protection, \$25,000, Theoretical study of the potential of catalytic converter's efficiency monitoring onboard a vehicle with aid of remote sensing technology. Co-Principal Investigator, PI: M. Shapiro.
- 2012-2017: Israel Science Foundation, \$420,000, Dynamics of Alcohol Fueled Reformer-Internal Combustion Engine System. Senior Investigator, PIs: M. Shapiro and M. Sheintuch.
- 2013-2015: Israeli Ministry of Environmental Protection, \$54,000, Study of the environmental implications of operating passenger cars on alternative fuels (oil substitutes) in using conditions typical for Israel. Co-Principal Investigator, PI: M Shapiro.
- 2010-2014: European Commission (EC), FP7, €182,000, CATS – City Alternative Transport System, coordinated by Thierry Chanard, GEA (Switzerland). The total CATS budget is about €4 M. **Principal Investigator**.
- 2012-2014: Israeli Ministry of Environmental Protection, \$50,000, Study of environmental impacts of spark ignition engine fueling by methanol reforming products, **Principal Investigator**.
- 2014-2015: Israeli Ministry of Environmental Protection, \$86,000, A comparative study on the influence of reforming method of different alcohols (ethanol, methanol) on the environmental impact and the performance of an engine with thermo-chemical recuperation of the exhaust gas energy, **Principal Investigator**.

- 2015-2017: Israeli Ministry of Environmental Protection, \$50,000, Environmental implications of diesel engines feeding by the alternative renewable fuel dimethyl ether (DME). **Principal Investigator**
- 2015-2016: Israeli Ministry of Environmental Protection, \$25,000. Study of air pollution by nanoparticles at the Jerusalem central bus station, in buses and in trains. **Principal Investigator**
- 2015-2017: Israeli Ministry of Environmental Protection, \$84,000. Environmental implications of lubricant type selection for the engine fed by syngas with a focus on nanoparticle emissions. **Principal Investigator**
- 2015-2017 International Energy Agency, Advanced Motor Fuels – AMF, Annex 52 “Fuels for Efficiency”, total budget ~ €450,000. Our contribution: Fuel reforming by thermochemical recuperation. Participants: VIT (Finland), Coburg University (Germany), Technion (Israel), DTI (Denmark), OK (Denmark), PTT (Thailand). Project coordinator: Somnuek Jaroonsathian (PTT). **Principal Investigator** ([http://www.iea-amf.org/content/projects/map\\_projects/52](http://www.iea-amf.org/content/projects/map_projects/52) )
- 2016-2018 European Commission (Joint Research Center – JRC), Israel Ministry of National Infrastructures, Energy and Water Resources, \$154,000, ART: Autonomous Road Transportation. Our contribution: assessment of energy and environmental impacts of ART. The consortium includes JRC, Technion, TSS (Spain), the University of Birmingham (UK). Project coordinator: Biagio Ciuffo (JRC). **Co-Principal Investigator**, PI: T. Toledo.
- 2016-2018 Israel Ministry of National Infrastructures, Energy and Water Resources, \$130,000, High-Pressure Thermo-Chemical Recuperation for Direct-Injection Internal Combustion Engine Fed by the Methanol Reforming Products. **Principal Investigator**, Co-PI: M. Sheintuch.
- 2016-2017 Israel Ministry of Transportation, \$78,000, Feasibility study of a transportation system based on electric infrastructure. **Co-Principal Investigator**, PI: S. Bekhor.
- 2017-2018 Israel Ministry of Transportation, \$90,000, Assessment of the feasibility of electric propulsion for urban public transportation in Israel. **Co-Principal Investigator**, PIs: S. Bekhor and Y. Shiftan.
- 2017-2021 **Israel Science Foundation**, \$360,000. Particles formation in combustion of reformate fuels in a lubricated closed vessel. **Principal Investigator**, Co-PI: M. Shapiro
- 2018-2020 Israel Innovation Authority, **KAMIN** Program, \$225,000. Catalytic energy recuperation reformer system. **Principal Investigator**, Co-PI: M. Sheintuch.
- 2019-2021 Israel Ministry of Energy, \$163,000. A novel engine combustion process with reforming-controlled compression ignition. **Principal Investigator**.

**Industrial and other sources**

- 2002-2003: Israeli Airports Authority, \$18,000, Reduction of pollutants emission by off-road vehicles in airports, Co-Principal Investigator, PI: Y. Zvirin.
- 2004-2006: Haifa Region Association of Cities for the Environment, \$40,000, Exposure of drivers and transportation users to air pollution inside vehicles at driving conditions typical to Haifa. Co-Principal Investigator, PI: Y. Zvirin.
- 2005-2006: Ministry of Environment and the Municipality of Petach-Tikva, \$26,000, Road tests of garbage trucks retrofitted by aftertreatment systems in Petach-Tikva. Co-Principal Investigator, PI: Y. Zvirin.
- 2005-2006: Yaffe Nof Transport Planning, \$60,000, Road tests and performance analysis of Phileas hybrid bus. Co-Principal Investigator, PI: Y. Zvirin.
- 2005-2006: FRICSO Ltd., \$23,000, Assessment of the effects of CMR surface treatment on diesel engine performance. Co-Principal Investigator, PI: Y. Zvirin.
- 2006-2007: Logus Ltd. (USA), \$21,000, Effects of additives to diesel fuel and lubrication oil on engine performance. Co-Principal Investigator, PI: Y. Zvirin.
- 2009-2010: Egged and Dan Transportation Co., \$34,000, Comparison of emissions by urban buses and passenger cars in Israel. Co-Principal Investigator, PI: Y. Zvirin.
- 2012-2013: MAFAT, Israeli Ministry of Defense, \$50,000, Improvement of fuel-air mixing by activation of the impingement surface. Co-Principal Investigator, PI: M Shapiro.
- 2013-2014: MAFAT, Israeli Ministry of Defense, \$60,000, Automotive engine adaptation to UAV applications. Co-Principal Investigator, PI: M Shapiro.
- 2014-2015: MAFAT, Israeli Ministry of Defense, \$70,000, Study and improvement of UAV engine performance in a real flight conditions. **Principal Investigator**
- 2015-2016: Egged Ltd, \$27,000. Field experiments with buses retrofitted by diesel particle filters. **Principal investigator**
- 2015-2016: MAFAT, Israeli Ministry of Defense, \$65,000, Study of knock phenomena in UAV engine in a real flight conditions. **Principal Investigator**
- 2016 Israel Aerospace Industries, \$15,000, Study of a supercharging system for UAV engine. **Principal Investigator**
- 2016-2018 Haifa District Municipal Association for Environmental Protection, \$55,000, Study of diesel particle filter and fuel type effects on nanoparticle emissions by garbage trucks. **Principal Investigator**
- 2016-2017 MAFAT, Israeli Ministry of Defense, \$77,000, HCCI combustion in a Wankel engine – feasibility study. **Principal Investigator**
- 2017 Aeronautics Ltd., \$8,500, Development of a model for computational study of UAV engine performance. **Principal Investigator**



Leonid TARTAKOVSKY

- 2017-2018 MAFAT, Israeli Ministry of Defense, \$48,500. Study of fuel injection and mixing in engine combustion chamber. **Principal Investigator**
- 2018-2019 MAFAT, Israeli Ministry of Defense, \$59,000. Study of combustion process in a rotary engine. **Principal Investigator**
- 2019-2020 Tel-Aviv Municipality, \$10,500. Study of diesel particle filter influence on emissions of nanoparticles from heavy mechanical equipment. **Principal investigator.**
- 2019-2020 MAFAT, Israeli Ministry of Defense, \$60,800. Investigation of an internal combustion engine for unmanned aerial vehicles. **Principal Investigator**
- 2019-2020 MAFAT, Israeli Ministry of Defense, \$37,200. Investigation of hydrogen injection into diesel engine. **Principal Investigator**

### **SIGNIFICANT PROFESSIONAL PROJECTS**

- 1997 – 2000 Development of the National Database of Vehicle Emission Factors, supported by the Israeli Ministry of Environmental Protection (with Y. Zvirin, some activities – till 2011). Few examples of the Database implementation nationwide:
- *Knesset of Israel, Plans of reduction air pollution from transportation: implementation of an Amendment 84 to the Traffic Ordinance, 2012*  
(<https://www.knesset.gov.il/mmm/data/pdf/m03000.pdf>)
  - *Central Bureau of Statistics, Motor Vehicles 2015*  
([http://www.cbs.gov.il/publications16/1641/pdf/h\\_print.pdf](http://www.cbs.gov.il/publications16/1641/pdf/h_print.pdf))
  - *Central Bureau of Statistics, Sustainable Development Indicators in Israel, 2008*  
(<http://www.raanana.muni.il/Environment/Documents/madadim2008.pdf>)
- 2013 – present National program on reduction of nanoparticle emissions from heavy-duty diesel vehicles by retrofitting diesel particle filters (DPF). Involved: Ministry of Environmental Protection, Ministry of Transportation, Egged, Dan, Haifa District Municipal Association for Environmental Protection, VERT (international association for emissions control). About 6000 heavy-duty diesel vehicles are to be retrofitted with DPF. *My contribution*: my research (journal papers #17, 21, 23) served as a basis for governmental decisions on DPF retrofitting

### **PUBLICATIONS**

#### **Theses**

MSc – Final Project topic: "Development and analysis of combustion chamber for automotive gas-turbine engine", 1980. Moscow Automotive Mechanical Institute

PhD – Thesis topic: "Study of gas dynamics in the turbocharger ducts of a diesel engine", 1986. Central Automobile and Automotive Engines Research Institute (NAMI), Moscow

**Refereed papers in professional journals**

1. L. Tartakovsky (1982) Interaction of turbulent flows in pulse-converter of turbo-charged engine. *NAMI Transactions (TRUDY NAMI)*, vol. 186, 61-66, Moscow, USSR (in Russian).
2. N.S. Hanin and L. Tartakovsky (1983) Study of flow interaction in symmetric exhaust duct branches of internal combustion engine. *Izvestia VUZov. Mashinostroenie*, Moscow, USSR, No. 6, 65-69 (in Russian).
3. N.S. Hanin, G. Ter-Mkrtychyan, L. Tartakovsky and V.V. Tokar (1984) Problems of the reduction of fuel consumption of heavy-duty diesel engines. *NAMI Transactions (TRUDY NAMI)*, Moscow, USSR, 16-28 (in Russian).
4. A.P. Gusarov, L. Tartakovsky and I.V. Dolgov (1989) Development of the methodology of measurement of particulate emission by automobile diesel engines. *NAMI Transactions (TRUDY NAMI)*, Moscow, USSR, 32-30 (in Russian).
5. A.N. Semenihih, L. Tartakovsky and V.A. Tiulnev (1989) Investigation of the possibility of using combined supercharging in multicylinder diesel engine. *NAMI Transactions (TRUDY NAMI)*, Moscow, USSR, 126-131 (in Russian).
6. L. Tartakovsky, M.G. Sokolov and A.B. Zinyaev (1990) Fuel apparatus for high energy fuel injection. *Avtomobilnaya promishlennost*, USSR, No. 1, 13, 14 (in Russian).
7. L. Tartakovsky (1990) Comparing Ecological Indices of Diesel and Gas-Diesel Engines. *SAE Technical Paper 905243*, 6pp.
8. M. Gutman, L. Tartakovsky, Y. Kirzhner and Y. Zvirin (1996) Development of a screening test for evaluating detergent/dispersant additives to diesel fuels. *SAE Technical Paper 961184*, 8pp. DOI: 10.4271/961184.
9. M. Veinblat, L. Tartakovsky, M. Gutman, Y. Zvirin and S. Hausberger (2001) Fuel Effects on Emissions from Heavy-Duty Diesel Engines – Results of Recent Research Programs. *SAE Technical Paper 2001-24-0081*, 9pp. DOI: 10.4271/2001-24-0081
10. L. Tartakovsky, V. Baibikov, M. Gutman, A. Mosyak, M. Veinblat (2011) Performance analysis of SI engine fueled by ethanol steam reforming products. *SAE Technical Paper 2011-01-1992*, 11pp. DOI: 10.4271/2011-01-1992.
11. L. Tartakovsky, Baibikov, V., Veinblat, M., Popescu, D.<sup>7</sup>, Zvirin, Y., Gutman, M. (2012) Mileage Influence on Conversion Efficiency of Catalytic Converter from In-Use Vehicles. *SAE Int. J. Engines* 5(4): 1617-1623. DOI:10.4271/2012-01-1672.
12. L. Tartakovsky, B. Aronov, Y. Zvirin (2012) Modeling the regeneration processes in diesel particulate filters. *Energy and Power* 2(5): 96-106. DOI: 10.5923/j.ep.20120205.03.
13. L. Tartakovsky, V. Baibikov, M. Gutman, M. Veinblat, J. Reif (2012) Simulation of Wankel engine Performance Using a Commercial Software for Piston Engines. *SAE Technical Paper 2012-32-0098*, 14pp. DOI: 10.4271/2012-32-0098.

---

<sup>7</sup> Graduate student

14. L. Tartakovsky, V. Baibikov, M. Veinblat (2013) Comparative performance analysis of SI engine fueled by ethanol and methanol reforming products. *SAE Technical Paper* 2013-01-2617, 14pp. DOI: 10.4271/2013-01-2617.
15. L. Tartakovsky, A. Mosyak, Y. Zvirin (2013) Energy analysis of ethanol steam reforming for hybrid electric vehicle. *Int. J. Energy Research* 37: 259-267. DOI: 10.1002/er.1908.
16. L. Tartakovsky, V. Baibikov, J. Czerwinski, M. Gutman, M. Kasper, D. Popescu, M. Veinblat, Y. Zvirin (2013) In-vehicle particle air pollution and its mitigation. *Atmospheric Environment* 64: 320-328. DOI: 10.1016/j.atmosenv.2012.10.003.
17. Y. Shukhman, V. Baibikov, A. Marmur, M. Veinblat, L. Tartakovsky (2013) Internal combustion engine response to presence of combustion inhibitors in the ambient air. *SAE Int. J. Engines* 6(2): 1138-1144. DOI: 10.4271/2013-01-1513.
18. L. Tartakovsky, M. Gutman, D. Popescu, M. Shapiro (2013) Comparative analysis of energy and environmental impacts of urban buses and passenger cars. *Environment and Pollution* 2(3): 81-91. DOI: 10.5539/ep.v2n3p81.
19. L. Tartakovsky, V. Baibikov, M. Veinblat (2014) Modeling Methanol Steam Reforming for Internal Combustion Engine. *Energy and Power* 4(1A): 50-56. DOI: 10.5923/s.ep.201401.04.
20. A. Poran, M. Artoul, M. Sheintuch, L. Tartakovsky (2014) Modeling Internal Combustion Engine with Thermo-Chemical Recuperation of the Waste Heat by Methanol Steam Reforming. *SAE Int. J. Engines* 7(1): 234-242. DOI: 10.4271/2014-01-1101 - *featured in the selected publications list of Gamma Technologies Inc.* [https://www.gtisoft.com/publication-result/?authors\\_ids%5B0%5D&type&category\\_ids%5B0%5D&companies%5B0%5D=631&industry\\_ids%5B0%5D&years%5B0%5D&phrase&pagination=1&submit=submit](https://www.gtisoft.com/publication-result/?authors_ids%5B0%5D&type&category_ids%5B0%5D&companies%5B0%5D=631&industry_ids%5B0%5D&years%5B0%5D&phrase&pagination=1&submit=submit)
21. J. Tenenbaum, M. Shapiro, L. Tartakovsky (2015) An Analytical Model of a Two-phase Jet with Application to Fuel Sprays in Internal Combustion Engines. *SAE Int. J. Engines* 8(1): 151-164. DOI: 10.4271/2014-32-0062.
22. L. Tartakovsky, B. Aronov, A. Mosyak (2015) Modeling Energy and Environmental Impacts of Cybernetic Transportation System. *Environmental Engineering and Management Journal* 14(5): 1161-1169.
23. L. Tartakovsky, V. Baibikov, P. Comte, J. Czerwinski, A. Mayer, M. Veinblat, Y. Zimmerli (2015) Ultrafine particle emissions by in-use diesel buses of various generations at low-load regimes. *Atmospheric Environment* 107: 273-280. DOI: 10.1016/j.atmosenv.2015.02.052.
24. L. Tartakovsky, R. Amiel, V. Baibikov, M. Veinblat (2015) Prevention of fuel film formation by ultrasonic activation of the fuel spray impingement surface. *SAE Technical Paper* 2015-01-0935, 10pp. DOI: 10.4271/2015-01-0935.
25. A. Omari, M. Shapiro, L. Tartakovsky (2015) Laminar burning velocity of alcohol steam reforming products and effects of cellularity on flame propagation. *SAE Technical Paper* 2015-01-0775, 13pp. DOI: 10.4271/2015-01-0775.
26. A. Poran, L. Tartakovsky (2015) Energy efficiency of a Direct-Injection Internal Combustion Engine with High-Pressure Methanol Steam Reforming. *Energy* 88: 506-514. DOI: 10.1016/j.energy.2015.05.073 - *featured in the Journal of Technology & Science, Atlanta,*

USA <https://search.proquest.com/docview/1719985171?accountid=27233> and in the selected publications list of Gamma Technologies Inc.

27. L. Tartakovsky, R. Amiel, V. Baibikov, R. Fleischman, M. Gutman, A. Poran, M. Veinblat (2015) SI Engine with Direct Injection of Methanol Reforming Products – First Experimental Results. *SAE Technical Paper* 2015-32-0712, 10pp.
28. A. Omari, L. Tartakovsky (2016) Measurement of the laminar burning velocity using the confined and unconfined spherical flame methods – a comparative analysis. *Combustion and Flame* 168: 127-137. DOI: 10.1016/j.combustflame.2016.03.012.
29. R. Amiel, L. Tartakovsky (2016) Effect of a Flight Altitude on the Knock Tendency of SI Reciprocating Turbocharged Engines. *SAE Technical Paper* 2016-32-0006, 8pp. DOI: 10.4271/2016-32-0006.
30. A. Eyal, L. Tartakovsky (2016) Reforming Controlled Homogenous Charge Compression Ignition – Simulation Results. *SAE Technical Paper* 2016-32-0014, 11pp. DOI: 10.4271/2016-32-0014 - featured in the selected publications list of Gamma Technologies Inc. – the developer of GT-SUITE, the leading 0D/1D/3D multi-physics CAE system simulation software [https://www.gtisoft.com/publication-result/?authors\\_ids%5B0%5D&type&category\\_ids%5B0%5D&companies%5B0%5D=631&industry\\_ids%5B0%5D&years%5B0%5D&phrase&pagination=1&submit=submit](https://www.gtisoft.com/publication-result/?authors_ids%5B0%5D&type&category_ids%5B0%5D&companies%5B0%5D=631&industry_ids%5B0%5D&years%5B0%5D&phrase&pagination=1&submit=submit)
31. A. Poran, L. Tartakovsky (2017) Performance and emissions of a direct injection internal combustion engine devised for joint operating with high-pressure thermochemical recuperation system. *Energy* 124: 214-226. DOI: 10.1016/j.energy.2017.02.074.
32. V. Abramesco, L. Tartakovsky (2017) Air pollution by ultrafine particles inside diesel-propelled passenger trains. *Environmental Pollution* 226: 288-296. DOI: 10.1016/j.envpol.2017.03.072 – featured by all leading media in Israel
33. A. Poran, L. Tartakovsky (2017) Influence of methanol reformat injection strategy on performance, available exhaust gas enthalpy and emissions of a direct-injection spark ignition engine. *International Journal of Hydrogen Energy* 42: 15652-15668. DOI: 10.1016/j.ijhydene.2017.05.056
34. R. Fleischman, R. Amiel, J. Czerwinski, A. Mayer, L. Tartakovsky (2018) Buses retrofitting with diesel particle filters: real-world fuel economy and roadworthiness test considerations. *Journal of Environmental Sciences* 67: 273-286. DOI: 10.1016/j.jes.2017.09.011
35. L. Tartakovsky, M. Sheintuch (2018) Fuel reforming in internal combustion engines (review article). *Progress in Energy and Combustion Science* 67: 88-114. DOI: j.pecs.2018.02.003/10.1016 – on the list of most cited articles of the journal <https://www.journals.elsevier.com/progress-in-energy-and-combustion-science/most-cited-articles>. Featured as a highly cited article in Web of Science
36. A. Poran, A. Thawko, A. Eyal, L. Tartakovsky (2018) Direct Injection Internal combustion engine with high-pressure thermochemical recuperation - study of the first prototype. *International Journal of Hydrogen Energy* 43: 11969-11980. DOI: 10.1016/j.ijhydene.2018.04.190

37. G. Faingold, L. Tartakovsky, S. Frankel (2018) Numerical study of a direct injection internal combustion engine burning a blend of hydrogen and dimethyl ether. *Drones* 2(3): 23. DOI: 10.3390/drones2030023.
38. Y. Fass, L. Tartakovsky (2018) Limitations of Two-Stage Turbocharging at High Flight Altitudes. *SAE Int. J. Engines*, 11(5). DOI: 10.4271/03-11-05-0034
39. M. Veinblat, V. Baibikov, D. Katoshevski, Z. Wiesman, L. Tartakovsky (2018) Impact of various blends of linseed oil-derived biodiesel on combustion and particle emissions of a CI engine – a comparison with diesel and soybean fuels. *Energy Conversion and Management* 178: 178-189. DOI: 10.1016/j.enconman.2018.10.028
40. A. Eyal, L. Tartakovsky (2019) Reforming-Controlled Compression Ignition – a method combining benefits of Reactivity-Controlled Compression Ignition and High-Pressure Thermochemical Recuperation. *SAE Technical Paper* 2019-01-0964. DOI: <https://doi.org/10.4271/2019-01-0964>
41. A. Thawko, H. Yadav, A. Eyal, M. Shapiro, L. Tartakovsky (2019) Particle emissions of direct injection internal combustion engine fed with a hydrogen-rich reformat. *International Journal of Hydrogen Energy* 44: 28342-28356. DOI: 10.1016/j.ijhydene.2019.09.062
42. A. Thawko, L. Tartakovsky (2020) RANS simulation of a multicomponent underexpanded gaseous jet mixing – effects of composition and injection conditions. *SAE Technical Paper* 2019-32-0515
43. A. Eyal, L. Tartakovsky (2020) Second-law analysis of the Reforming-Controlled Compression Ignition. *Applied Energy* 263: 114622. DOI: 10.1016/j.apenergy.2020.114622
44. A. Thawko, H. Yadav, M. Shapiro, L. Tartakovsky (2020) Effect of Lubricant Formulation on Characteristics of Particle Emission from Engine Fed with a Hydrogen-Rich Fuel. *SAE Technical Paper* 2020-01-2200 DOI: 10.4271/2020-01-2200.
45. A. Thawko, S.A. Persy, A. Eyal, L. Tartakovsky (2020) Effects of Fuel Injection Method on Energy Efficiency and Combustion Characteristics of SI Engine Fed with a Hydrogen-Rich Reformat. *SAE Technical Paper* 2020-01-2082. DOI: 10.4271/2020-01-2082.
46. D. Diskin, L. Tartakovsky (2020) Efficiency at Maximum Power of the Low-Dissipation Hybrid Electrochemical - Otto Cycle. *Energies* 13(15): 3961. DOI: 10.3390/en13153961.
47. A. Eyal, L. Tartakovsky (2020) Suitability of the Reforming-Controlled Compression Ignition concept for UAV Applications. *Drones* 4(3): 60. **Invited feature paper**. DOI: 10.3390/drones4030060.

*Submitted*

48. D. Diskin, L. Tartakovsky: Power and Efficiency Characteristics of a Hybrid Electrochemical-ICE Cycle.
49. T. Lipshitz, L. Tartakovsky: Novel Design of an Electronic Throttle Body for a Formula Student Racecar.
50. D. Buntin, L. Tartakovsky: Heat release peculiarities in methylal combustion.

### **Chapters in books**

1. N.S. Hanin, M.S. Levit, G. Ter-Mkrtychyan, A.V. Ivanov., L. Tartakovsky and S.M. Levit: Heavy duty diesel engines. Moscow, USSR, 56 pp., 1983 (In Russian).
2. Y. Zvirin, M. Gutman and L. Tartakovsky: Fuel Effects on Emissions. Chapter 16 in the Handbook of Air Pollution from Internal Combustion Engines: Pollutant Formation and Control, edited by E. Sher, Academic Press, 548 – 651, 1998. DOI: 10.1016/B978-012639855-7/50055-7.
3. L. Tartakovsky, M. Gutman and A. Mosyak: Energy efficiency of road vehicles – trends and challenges. Chapter 3 in the Edited Collection "Energy Efficiency: Methods, Limitations and Challenges", Emmanuel F. Santos Cavalcanti and Marcos Ribeiro Barbosa (editors), Nova Science Publishers, p. 63-90, 2012. ISBN: 978-1-62081-817-6

#### *Submitted*

4. L. Tartakovsky, Y. Fass, J. Feldman, M. Veinblat: UAV Propulsion Systems. Chapter in the Handbook of Unmanned Aerial Vehicles, 2<sup>nd</sup> edition, Valavanis, Kimon P., Vachtsevanos, George J. (Eds.), Springer

### **Patents**

1. N.S. Hanin and L. Tartakovsky: Device for gas supply to turbocharger of internal combustion engine. USSR Patent No. 1160079, 1985.
2. V.F. Kutenev, A.P. Gusarov, A.N. Semenihin, L. Tartakovsky, and V.A. Tiulnev: Supercharged internal combustion engine. USSR Patent No. 1518559, 1989.
3. A.P. Gusarov, M.G. Sokolov and L. Tartakovsky: Internal combustion engine, working on liquid and gaseous fuels. Positive solution on claim for USSR Patent No. 4815926/06-037207, 1990.
4. M. Veinblat, Y. Zvirin, L. Tartakovsky, M. Gutman and Baibikov: Sonic System and Method for Producing Liquid-Gas Mixtures. Patent Number: EP2294305, March 2011.
5. L. Tartakovsky, Y. Zvirin, I. Shir and S. Bengio: Method and Apparatus for Sensing the Nature of a Gaseous Composition, Particularly Vehicular Emissions. Patent Number: EP2338044, June 2011.
6. L. Tartakovsky, M. Sheintuch, M. Veinblat and A. Thawko: Internal Combustion Engine with Thermochemical Recuperation of Waste Heat and a Method for Thermochemical Recuperation. Provisional Patent Application 62/871,792; July 09, 2019.

### **Research reports** (above 130 reports on national and international projects)

#### **Most important peer-reviewed reports on international projects**

1. Y. Zvirin, B. Aronov, L. Tartakovsky, S. Bekhor and V. Baibikov: A tool to choose the Energy System and dimension of the vehicle fleet of CTS systems. Final Report CM D4.2 for the CYBERMOVE Project "Cybernetic transport systems for the cities of tomorrow", Project EESD EVK4-2001-00050 sponsored by the European Commission, December 2004. Via: <http://www.cybermove.org/docs/CM-D4.2-Energy-Final.pdf> .



2. M. Rexeis, S. Hausberger, I. Riemersma, L. Tartakovsky, Y. Zvirin, M. Van Poppel and E. Cornelis: Heavy duty vehicle emissions. Final report No: I 02/2005/Hb 20/2000 I680 of ARTEMIS WP 400 to the European Commission, contract No. GRD1-1999-10429, ARTEMIS Project (Assessment and Reliability of Transport Emission Models and Inventory Systems), Graz, July 2005. Via: [http://inrets.fr/ur/ite/publi-autresactions/fichesresultats/ficheartemis/road3/modelling33/Artemis\\_del4\\_HDV.pdf](http://inrets.fr/ur/ite/publi-autresactions/fichesresultats/ficheartemis/road3/modelling33/Artemis_del4_HDV.pdf)
3. P. Sturm, M. Keller, M. André, H. Steven, S. Hausberger, M. Rexeis, E. Cornelis, I. de Flieger, M. van Poppel, U. Hammarström, O. Koskinen, I. McCrae, I. Pollak, I. Riemersma, L. Tartakovsky, Y. Zvirin, P. Soltic, M. Weilenmann: COST 346 – Emissions and Fuel Consumption from Heavy Duty Vehicles. Final report of the Action, European Commission Directorate General for Energy and Transport, Office for official publications of the European Communities, Luxembourg 2006. Via: [http://w3.cost.eu/fileadmin/domain\\_files/TUD/Action\\_346/final\\_report/final\\_report-346.pdf](http://w3.cost.eu/fileadmin/domain_files/TUD/Action_346/final_report/final_report-346.pdf)
4. P. Boulter and I. McRae (editors): Assessment and reliability of transport emission models and inventory systems. Final report of the ARTEMIS Project funded by the European Commission within The 5th Framework Research Program, DG TREN Contract No. 1999-RD.10429, Deliverable No. 15. TRL Report UPR/IE/044/07, Berkshire UK, October 2007 (my authorship – part B5). Via: <http://www.inrets.fr/ur/ite/publi-autresactions/fichesresultats/ficheartemis/artemis.html#finalreport>
5. I. Kaparias, M.G.H. Bell, N. Eden, A. Gal-Tzur, O. Komar, C. G. Prato, L. Tartakovsky, B. Aronov, Y. Zvirin, M. Gerstenberger, A. Tsakarestos, S. Nocera, F. Busch: Key Performance Indicators for traffic management and Intelligent Transport Systems. Deliverable D3.5. Final report, CONDUITS project (Coordination of Network Descriptors for Urban Intelligent Transport Systems), WP 3, sponsored by the European Commission, contract No. 218636, June 2011. Via: [www.eltis.org/docs/tools/Conduits\\_KPI\\_for\\_ITS.pdf](http://www.eltis.org/docs/tools/Conduits_KPI_for_ITS.pdf)
6. L. Tartakovsky, B. Aronov: Simulation Tool for Assessment of Energy and Environmental Impacts. Deliverable D2.1. Final report, CATS project (City Alternative Transport System), WP 2, sponsored by the European Commission, contract No. 231341, October 2014.
7. S. Bekhor, L. Tartakovsky: Transferability assessment report. Deliverable D5.3. Final report, CATS project (City Alternative Transport System), WP 5, sponsored by the European Commission, contract No. 231341, December 2014.

## **CONFERENCES**

### **Keynote lectures**

1. L. Tartakovsky\*, High-Pressure Thermo-Chemical Recuperation – a Novel Energy Conversion Process for Sustainable Propulsion Systems. Keynote lecture at *the 2016 1<sup>st</sup> International Conference on New Energy and Future Energy Systems (NEFES 2016)*, Beijing, China, August 19-22, 2016.
2. L. Tartakovsky\*, DPF retrofit program in Israel – Effects of diesel particle filters on performance of in-use buses. Keynote lecture at *the VII International Congress on Combustion*

*Engines*, Poznan (Poland), June 27-29, 2017. The paper is published in *Combustion Engines* 170(3): 176-178. DOI: 10.19206/CE-2017-330

3. L. Tartakovsky\*, High-pressure thermo-chemical recuperation – a way toward sustainable propulsion systems. Keynote lecture at the *15th Global Conference on Sustainable Manufacturing*, Haifa (Israel), September 25-27, 2017. The paper is published in *Procedia Manufacturing* (2018) 21: 37-44. DOI: 10.1016/j.promfg.2018.02.092

### **Plenary lectures**

1. L. Tartakovsky\*<sup>8</sup>, V. Baibikov, M. Gutman, A. Poran, M. Veinblat, Thermo-Chemical Recuperation as an Efficient Way of Engine's Waste Heat Recovery, Plenary lecture at the *6<sup>th</sup> International Conference on Advanced Concepts in Mechanical Engineering ACME – 2014*, “Gheorghe Asachi” Technical University of Iasi, Romania, June 12-13, 2014. The paper is published in *Applied Mechanics and Materials* 659: 256-261, September 2014. DOI: 10.4028/www.scientific.net/AMM.659.256
2. L. Tartakovsky\*, Propulsion technologies for UAV – trends and challenges, Opening Speaker of the Panel Session “UAS Propulsion: New Developments, Research and Pathways Toward Improved Performance”, the *XPONENTIAL 2016 Annual Meeting of the Association for Unmanned Vehicle Systems International - AUVSI*, (was featured by leading international electronic media, like *Jane's Int. Defense Review*, *DFNS.net*, *googlenewsuav*, *Commercial UAV News*; etc.), New Orleans, USA, May 2-5, 2016.
3. L. Tartakovsky\*, Control strategy of a novel propulsion technology with waste heat recovery through high-pressure thermochemical recuperation, Plenary lecture at the *International Automobile Scientific Forum (IASF - 2018) on Intelligent Transport System Technologies and Components*, 18–19 October 2018, Moscow, Russia.

### **Invited lectures**

#### *National Meetings (Lectures by invitation only)*

1. L. Tartakovsky\*, Problems of particulate emissions reduction, *lecture at the Workshop*, Israeli Petroleum Institute (today Israeli Institute of Energy and Environment, Tel Aviv, May 1997
2. L. Tartakovsky\*, Diesel engines for diesel-generators, *Workshop on Vehicle Emissions Control*, Ministry of Environment, Hafets Haim, Israel, October 2000
3. L. Tartakovsky\*, Analysis of results of emission roadworthiness tests, *Workshop on Vehicle Emissions Control*, Ministry of Environment, Maale-ha-Chamisha, Israel, January 2002
4. L. Tartakovsky\*, D. Popescu, M. Gutman, M. Shapiro, Environmental impacts of passenger cars fed by alternative fuels at typical Israeli driving patterns, *Workshop on Oil Alternatives for Transportation*, Israel Ministry of Environmental Protection, Maale-ha-Chamisha, Israel, September 2013.

---

<sup>8</sup> \* - Lecturer



5. L. Tartakovsky\*, Environmental impacts of SI engine operated with methanol reforming products, *Workshop on Oil Alternatives for Transportation*, Israel Ministry of Environmental Protection, Maale-ha-Chamisha, Israel, September 2013.
6. L. Tartakovsky\*, Air pollution from road vehicles – advanced technologies for mitigation of pollutants emission, *Conference on Air Pollution, Health and Environment*, Ashkelon Association for Environmental Protection, Ashkelon Regional College, July 22, 2015.
7. L. Tartakovsky\*, Vehicle energy efficiency in the period of climate change – trends and challenges, lecture at the invited session on Propulsion Technologies and Alternative Fuels, the *Israeli Annual Conference on Environmental Sciences*, Hebrew University, Jerusalem, October 13, 2015.

#### *International Meetings*

1. L. Tartakovsky\*, Natural gas for transportation – technologies and environmental impacts, *lecture at the International Workshop on Natural Gas as a Feedstock for the Production of Oil Replacement for Transportation*, Tel-Aviv University, June 2011.
2. L. Tartakovsky\*, V. Baibikov, P. Comte, J. Czerwinski, A. Mayer, M. Veinblat, DPF-retrofit demonstration Euro-II, III, IV and V in Tel-Aviv, *lecture at the 5th International VERT Forum*, EMPA, Dubendorf, Switzerland, March 21, 2014.
3. L. Tartakovsky\*, V. Baibikov, P. Comte, J. Czerwinski, A. Mayer, M. Veinblat, Mitigation of nanoparticles emission from diesel buses with aid of diesel particle filters retrofitting, *lecture at the International TAIEX Workshop on Low Emission Zones - Learning from EU Countries Experience*, European Commission in cooperation with Israeli Ministry of Environment Protection, Jerusalem, May 26-27, 2014.
4. A. Poran\*, L. Tartakovsky, Advanced propulsion system with high energy efficiency and zero-impact emissions fed by an alternative fuel, *International Fuel Choices Summit*, Tel Aviv, November 11, 2015.
5. L. Tartakovsky\*, R. Amiel, R. Fleischman, DPF Retrofit in Israel – first results of the Pilot Test, *7th International VERT Forum*, EMPA, Dubendorf, Switzerland, March 18, 2016.
6. L. Tartakovsky\*, High-Pressure Thermochemical Recuperation – a novel method of onboard hydrogen production for propulsion systems, *the 32<sup>nd</sup> Umbrella Symposium on Energy Conversion and Energy Storage*, Haifa, Israel, April 22-25, 2018.
7. L. Tartakovsky\*, High-Pressure Thermochemical Recuperation, *SAE Waste Heat Recovery Symposium*, Haifa, Israel, May 23-24, 2018.
8. L. Tartakovsky\*, Fuel reforming for improvement of propulsion efficiency and emissions mitigation, *International Jubilee Workshop on Reduction of Emissions and Energy Consumption of IC Engines – Actual Challenges and Developments*, Bern University of Applied Sciences, Switzerland, June 13, 2019.
9. L. Tartakovsky\*, High-Pressure Thermochemical Recuperation – benefits and challenges, *Sustainable Internal Combustion Engine Symposium*, Stuttgart, Germany, June 16-18, 2020 (postponed due to COVID-19 pandemic).

10. A. Eyal\*, L. Tartakovsky, Reforming-Controlled Compression Ignition - a Novel Concept for Internal Combustion Engines, *5<sup>th</sup> International Conference on Fossil and Renewable Energy (F&R Energy-2021)*, Houston, TX, USA March 01-03, 2021.

### **Refereed papers published in Proceedings of International Conferences**

1. M. Gutman, L. Tartakovsky, Y. Kirzhner, Y. Zvirin, D. Luria, A. Weiss and M. Shuftan: Improvement of engine test methodology for evaluating diesel fuel stability. *Proc. 5th Int. Conf. Stability & Handling of Liquid Fuel*, Rotterdam, The Netherlands, Vol. 1, 423-431, Oct. 1994.
2. L. Tartakovsky, M. Gutman, Y. Kirzhner and Y. Zvirin: A fleet test to study the effects of detergent additives on the performance of bus diesel engines. *Proc. 29th ISATA (Int. Symposium on Automotive Technology & Automation)*, 183-190, Florence, Italy, June 1996.
3. L. Tartakovsky, M. Gutman, Y. Zvirin and A. Serry: Influence of urban driving conditions on on-road exhaust emissions and fuel consumption of gasoline cars. Paper 97EN036, *Proc. 30th ISATA (Int. Symposium on Automotive Technology & Automation)*, 89-96, Florence, Italy, June 1997.
4. Y. Zvirin, L. Tartakovsky, N. Vescio, M. Gutman, Y. Aleinikov A., E. Golgotiu and A. Serry: Estimate of emission coefficients from vehicles in Israel. Paper 98EL019, *31th ISATA (Int. Symp. Automotive Tech. & Automation) Conf.*, 10p, Düsseldorf, Germany, June 1998.
5. L. Tartakovsky, Y. Aleinikov, V. Fainberg, A. Garbar, M. Gutman, G. Hetsroni, Y. Shindler, and Y. Zvirin: Hybrid propulsion system based on an ICE fueled by methanol dissociation products – general concept. Paper 98EL018, *31th ISATA (Int. Symposium on Automotive Tech. & Automation)* Düsseldorf, Germany, June 1998.
6. M. Gutman, L. Tartakovsky, Y. Zvirin and E. Golgotiu: Hybrid vehicles with gas turbines. *Proceedings of the Third International Conference on Turbomachinery “Turbo ‘98”*, Bucharest, Romania, 1-9, July 1998.
7. L. Tartakovsky, M. Gutman, Y. Zvirin, Y. Aleinikov, E. Golgotiu, A. Serry: Emission factors of passenger cars in Israel. *Proc. The VII Intern. Scientific Seminar on Improvement of Power, Economical and Ecological Indices of Internal Combustion Engines*. Vladimir (Russia), 242 – 244, May 1999.
8. L. Tartakovsky, M. Gutman Y. Aleinikov, M. Veinblat, Y. Zvirin, B. Flicstein and B. Ben David: The Effect of Road Profile on Passenger Car Emissions, *Transport and air pollution, 9th International Scientific Symposium*, Avignon, France, 445 – 449, June 2000.
9. D. Kottick, L. Tartakovsky, M. Gutman, Y. Zvirin: Results of electric vehicle demonstration program. *IEEE Convention of the Electrical and Electronic Engineers in Israel* 21: 2000, 318 – 321. DOI: 10.1109/EEEI.2000.924407.
10. L. Tartakovsky, A. Davidy, D. Dvorjetski, Y. Aleinikov, M. Veinblat, M. Gutman and Y. Zvirin: The Potential of the Remote Sensing Method for Vehicle Inspection Programs. *11th Intern. Symposium on Transport and Air Pollution*, Graz, Austria, June 2002.

11. S. Bekhor, Y. Zvirin and L. Tartakovsky: Investigating user acceptance of cybernetic cars for a university campus. *82nd Annual Meeting of the Transportation Research Board (TRB)*, Washington, DC, Jan. 2003
12. L. Tartakovsky, Y. Zvirin, M. Motzkau, M. Van Poppel, I. Riemersma, M. Veinblat, V. Baybikov, Y. Aleinikov, & M. Gutman: Measurements and analysis of real-world driving behavior of urban buses. *Proceedings of the 12th International Scientific Symposium on Transport and Air Pollution*, Avignon (France), June 2003.
13. E. Golgotiu, R. Drosescu, E. Rakosi, M. Gutman and L. Tartakovsky: Gas Turbines Used in Hybrid Automotive Propulsion. *Buletinul Institutului Politehnic Din Iasi, Publicat de Universitatea Tehnica "Gh. Asachi", Iasi (Romania), Tomul XLIX (LIII), Fasc. 3-4, 89-98, 2003.*
14. M. Gutman, Y. Zvirin and L. Tartakovsky: Strategy of phasing-out the leaded gasoline in Israel. *Buletinul Institutului Politehnic Din Iasi, Publicat de Universitatea Tehnica "Gh. Asachi", Iasi, Tomul L (LIV), Fasc. 6D, 57-66, 2004.*
15. L. Tartakovsky, M. Veinblat, M. Gutman, Y. Aleinikov and Y. Zvirin: Methodology of emission factors estimation for buses in Israel. *Buletinul Institutului Politehnic Din Iasi, Publicat de Universitatea Tehnica "Gh. Asachi", Iasi, Tomul L (LIV), Fasc. 6D, 211-217, 2004.*
16. L. Tartakovsky, J. Czerwinski, Y. Aleinikov, B. Aronov, V. Baibikov, M. Gutman, M. Veinblat and Y. Zvirin: Retrofitting of urban buses in Israel with particulate traps – first results. *Proc. of the 13th World Clean Air and Environmental Protection Congress (IUAPPA), Transport, Environment and the Sustainable City*, Paper No. 1, 6p, London (UK), August 22-27, 2004.
17. M. Gutman, L. Tartakovsky, Y. Zvirin, A. Flor, A. Gonen and H. Ben Ari: Development of a method to measure diesel smoke emission for Inspection/Maintenance programs. *Proc. of the 13th World Clean Air and Environmental Protection Congress (IUAPPA), Transport, Environment and the Sustainable City*, Paper No. 221, 5p, London (UK), August 22-27, 2004.
18. L. Tartakovsky, M. Gutman, Y. Aleinikov, V. Baibikov, M. Veinblat and Y. Zvirin: Road tests of diesel oxidation catalysts on urban buses. *Proceedings of the 13th International Scientific Symposium on Transport and Air Pollution*, Boulder (USA), 169-176, September 13-15, 2004.
19. L. Tartakovsky, S. Hausberger, M. Gutman, M. Veinblat and Y. Zvirin: Retrofit aftertreatment systems for diesel engines. *Proceedings of the 14th International Scientific Symposium on Transport and Air Pollution*, Graz (Austria), 221-230, June 2005.
20. L. Tartakovsky, Y. Aleinikov, V. Baibikov, E. Berlin, B. Flicstein, Z. Fuhrer, M. Gutman, M. Veinblat and Y. Zvirin: Driver exposure to air pollution inside a car – effects of ventilation method. *Proceedings of the 15th International Scientific Symposium on Transport and Air Pollution*, Actes INRETS No 107, vol. 2, p. 20-27, Reims (France), June 2006.
21. B. Aronov, L. Tartakovsky and Y. Zvirin: Simulation model of CRT regeneration. *Proceedings of the 16<sup>th</sup> International Scientific Symposium on Transport and Air Pollution*, Graz (Austria), June 2008.
22. A. Davidy, Y. Zvirin, L. Tartakovsky: Theoretical and Experimental Study of Remote Sensing for Measuring Transport Emissions. *Paper AIAA 2009-4530*, August 2009. DOI: 10.2514/6.2009-4530.

23. Y. Zvirin, L. Tartakovsky, B. Aronov and M. Parent: Modeling vehicle performance for sustainable transport. *Proceedings of the 17th International Scientific Symposium on Transport and Air Pollution*, Actes INRETS No 122, Toulouse (France), 8p, June 2009.
24. L. Tartakovsky, V. Baibikov, J. Czerwinski, M. Gutman, M. Kasper, M. Veinblat and Y. Zvirin: Reduction of Air Pollution inside a Vehicle by Using Nano-Particle Filter. *Proceedings of the 18th International Scientific Symposium on Transport and Air Pollution*, Dubendorf (Switzerland), 6p, May 18-19, 2010.
25. L. Tartakovsky, V. Baibikov, M. Gutman, D. Popescu, M. Veinblat & Y. Zvirin: Study of air pollution inside vehicle cabin. *Proceedings of the 4<sup>th</sup> International Conference on Advanced Concepts in Mechanical Engineering*. Buletinul Institutului Politehnic Din Iasi, Publicat de Universitatea Tehnica “Gh. Asachi”, Iasi (Romania), June 2010.
26. L. Tartakovsky, V. Baibikov, M. Gutman, D. Popescu, M. Veinblat & Y. Zvirin: Comparative analysis of environmental impact of urban buses and passenger cars in Israel. *Proceedings of the 5<sup>th</sup> International Conference on Advanced Concepts in Mechanical Engineering*. Buletinul Institutului Politehnic Din Iasi, Publicat de Universitatea Tehnica “Gh. Asachi”, Iasi (Romania), June 2012.
27. L. Tartakovsky, V. Baibikov, T. Bengio, R. Karasenti, M. Veinblat: Improvement of Engine's Energy Efficiency and Emissions Reduction by Thermo-Chemical Recuperation of Exhaust Gas Energy. *Proceedings of the 19<sup>th</sup> International Scientific Symposium on Transport and Air Pollution*, Thessaloniki (Greece), 6p, November 26-27, 2012.
28. L. Tartakovsky, V. Baibikov, P. Comte, J. Czerwinski, A. Mayer and M. Veinblat: Influence of diesel particle filter on ultrafine particle emissions from in-use buses of different generations. *Proceedings of the 20<sup>th</sup> International Scientific Symposium on Transport and Air Pollution*, Graz (Austria), September 18-19, 2014.
29. D. Christie, P. Vollichard, S. Lavadinho, S. Vincent-Geslin, M. Thémans, M. Bierlaire, V. Kaufmann, A. Koymans, R. Gindrat, T. Chanard, S. Limao, E. Bessmann, I. Chaumier, P. Dupuy, F. Janin, S. Laporte, C. Oppenhauser, D. Krieger, R. Golias, G. Lecocq, J. M. Lasgouttes, A. de La Fortelle, T. Liennard, S. Mahari, S. Bekhor, L. Tartakovsky, A. Alessandrini, D. Stam, A. Granata, M. Perpelea, J.F. Argence, V. Machado, M.J. Navarre, P. Lefèvre, F. Lenti: City Automated Transport System (CATS): the Legacy of an Innovative European Project. *Proceedings of the 43<sup>rd</sup> European Transport Conference*, Frankfurt (Germany), September 28-30, 2015.
30. R. Fleischman, L. Tartakovsky: Utilization of Renewable Alcohol in an Internal Combustion Engine with Thermo-Chemical Recuperation of the Exhaust Gas Energy. *Proceedings of the International Conference on Alcohol Fuels for Transport – Background, Research and Development*. Published in the *Edited Collection N° 204, 216-232, Stanislaw Oleksiak (editor)*, Oil & Gas Institute, Cracow (Poland), November 25-26, 2015. DOI: 10.18668/PN2015.204
31. R. Fleischman, R. Amiel, J. Czerwinski, A. Mayer and L. Tartakovsky: Performance of in-use buses retrofitted with diesel particle filters. *Proceedings of the 21<sup>st</sup> International Transport and Air Pollution Conference*, 850-864, Lyon (France), May 24-26, 2016. Published in the *Journal of Earth Sciences and Geotechnical Engineering* **6**(4): 255-272, 2016.

32. O. Cesana, M. Gutman, M. Shapiro, L. Tartakovsky: Internal Combustion Engine with Thermochemical Recuperation Fed by Ethanol Steam Reforming Products-Feasibility Study. *7<sup>th</sup> International Conference on Advanced Concepts in Mechanical Engineering*, Iasi (Romania), June 9-10, 2016. Published in IOP Conf. Series: *Materials Science and Engineering* **147** (2016) 012109. DOI:10.1088/1757-899X/147/1/012109
33. V. Abramesco, A. Zalzburg, J. Czerwinski, A. Mayer and L. Tartakovsky: Particles air pollution in diesel passenger trains, coaches, train and bus stations. *Proceedings of the 22<sup>nd</sup> International Transport and Air Pollution Conference*, Zurich (Switzerland), November 15-16, 2017.
34. L. Tartakovsky, A. Eyal, A. Thawko, H. Yadav: A Novel Technology of High-Pressure Thermochemical Recuperation for Efficiency Increase and Emissions Mitigation. *Proceedings of the 23<sup>rd</sup> International Transport and Air Pollution Conference*, Thessaloniki, Greece, 15-17 May 2019.
35. K. Karsenty, L. Tartakovsky, E. Sher: Diesel engines with in-cylinder steam reforming for high altitude operation - Comparison between 2 and 4-stroke engines. *Proceedings of the IACAS 2020 - 60th Israel Annual Conference on Aerospace Sciences*, p. 990-993, March 4-5, 2020.

#### **Lectures delivered at International Conferences**

1. L. Tartakovsky\*: Influence of initial flow unevenness and turbulence on losses during their mixing in symmetric exhaust duct branches of internal combustion engine. 4<sup>th</sup> Int. Conference on Modern Problems of Gas Dynamics and Heat Exchange in Power-Plants, Moscow, USSR, 40, 1983.
2. V.F. Kutenev, L. Tartakovsky\* and V.N. Yarilov: Influence of the hydraulic resistance of intake- and exhaust systems on economic and ecological indices of automobile diesel engine. Int. Conference on Problems of Improvement Working Processes in Internal Combustion Engines, Moscow. USSR, 1986.
3. M.G. Sokolov, L. Tartakovsky\* and S.V. Fuchkin: Ecological indices of dual-fuel engine: problems and ways of their solution. Int. Meeting on Improvement Ecological Indices of Automobiles and Tractors, Moscow, USSR, 1989.
4. Z.Y. Bulicheva\*, M.G. Sokolov and L. Tartakovsky: Measurement of saturated and unsaturated aldehydes and ketones in diesel engine exhaust gases. Int. Meeting on Environment Control, Kursk, USSR, 1990.
5. Z.Y. Bulicheva\*, M.G. Sokolov and L. Tartakovsky: Measurements of exhaust gas composition in diesel and gas-diesel engines. Int. Power Club of the Soviet Academy of Sciences, Samara, USSR, 27-28, 1991.
6. L. Tartakovsky\*, M. Gutman, Y. Zvirin, E. Golgotiu Y. Aleinikov and A. Serry: Estimate of emission coefficients from vehicles in Israel. 4<sup>th</sup> Int. Conf. on Road Safety and Environment, Tel Aviv, Israel, Nov. 1997.
7. L. Tartakovsky\*, Y. Zvirin, M. Gutman, D. Kutick and Y. Frank, Road tests of electric vehicle powered by zinc-air battery. 7<sup>th</sup> Int. Conf. On Environmental Challenges for the Next Millennium, Jerusalem, June 1999.

8. M. Gutman\*, L. Tartakovsky, Y. Zvirin and A. Serry: Problems of Air Pollution by Road Transport in Israel. 7<sup>th</sup> Int. Conf. On Environmental Challenges for the Next Millennium, Jerusalem, June 1999.
9. Y. Shiftan, Y. Zvirin\* and L. Tartakovsky: Contribution of transportation to emission of greenhouse gases in Israel and measures for its reduction. 7<sup>th</sup> Int. Conf. On Environmental Challenges for the Next Millennium, Jerusalem, June 1999.
10. M. Gutman\*, L. Tartakovsky, Y. Aleinikov, V. Baibikov, M. Veinblat and Y. Zvirin: Estimation of air pollution from airport tractors. Int. Conf. "Living with global change: challenges in environmental sciences", Rehovot (Israel), May 30 – June 1, 2005.
11. Y. Zvirin\*, M. Parent, L. Tartakovsky, Challenges of Sustainable Transport: Providing Mobility while Conserving Energy and Environment, International AFHB Anniversary Conference, Technical University Biel, Switzerland, April 2009.
12. L. Tartakovsky\* and Y. Zvirin: Study of Air Pollution inside a Vehicle. 1<sup>st</sup> Int. Workshop on Nano-Particle Emissions from IC-Engines. Tel-Aviv, June 17, 2010.
13. L. Tartakovsky, V. Baibikov, J. Czerwinski, M. Gutman, M. Kasper, M. Veinblat and Y. Zvirin: Measurements of Particulates Concentrations inside Vehicle Cabin. 14<sup>th</sup> ETH-Conference on Combustion Generated Nanoparticles, Zurich (Switzerland), August 1-4, 2010 (*poster*).
14. L. Tartakovsky, V. Baibikov, M. Gutman, A. Mosyak\*, M. Veinblat: Performance analysis of SI engine fueled by ethanol steam reforming products. SAE 2011 Int. Powertrains, Fuels & Lubricants Meeting, Kyoto, Japan, September 2011.
15. L. Tartakovsky\*, Baibikov, V., Veinblat, M., Popescu, D., Zvirin, Y., Gutman, M. Mileage Influence on Conversion Efficiency of Catalytic Converter from In-Use Vehicles. SAE 2012 Int. Powertrains, Fuels & Lubricants Meeting, Malmo, Sweden, September 2012.
16. L. Tartakovsky, V. Baibikov, M. Gutman\*, M. Veinblat, J. Reif: Simulation of Wankel engine Performance Using a Commercial Software for Piston Engines. 18<sup>th</sup> SAE/JSAE Small Engine Technology Conference – SETC 2012, Madison WI, USA, October 16-18, 2012.
17. Y. Shukhman, V. Baibikov, A. Marmur, M. Veinblat, L. Tartakovsky\*: Internal combustion engine response to presence of combustion inhibitors in the ambient air. 2013 SAE World Congress, Detroit MI, USA, April 2013.
18. L. Tartakovsky\*: In-vehicle air pollution by ultrafine particles and ways of its mitigation. 2<sup>nd</sup> International Workshop on Nano-Particle Emissions from IC-Engines. Tel-Aviv, June 10, 2013.
19. L. Tartakovsky\*, Baibikov, V., Veinblat, M.: Comparative performance analysis of SI engine fueled by ethanol and methanol reforming products. SAE 2013 Int. Powertrains, Fuels & Lubricants Meeting, Seoul, Korea, October 2013.
20. A. Poran\*, M. Artoul, M. Sheintuch, L. Tartakovsky: Modeling Internal Combustion Engine with Thermo-Chemical Recuperation of the Waste Heat by Methanol Steam Reforming. 2014 SAE World Congress, Detroit MI, USA, April 8-10, 2014.
21. L. Tartakovsky\*, V. Baibikov, P. Comte, J. Czerwinski, A. Mayer and M. Veinblat: A potential of diesel particle filters as a tool for nanoparticles emission reduction by heavy-duty diesel

- buses. 6<sup>th</sup> International Conference on Advanced Concepts in Mechanical Engineering ACME – 2014, “Gheorghe Asachi” Technical University of Iași, Romania, June 12-13, 2014.
22. D. Popescu, G. Ben-Haim, L. Tartakovsky: Ultrafine particle concentrations inside a car – cabin filter effects. International Conference on Aerosol Technology, Karlsruhe, Germany, 16 - 18 June, 2014 (*poster*).
  23. L. Tartakovsky, V. Baibikov, P. Comte, J. Czerwinski\*, A. Mayer and M. Veinblat: Analysis of ultrafine particle emissions by in-use buses of different generations. 18<sup>th</sup> ETH-Conference on Combustion Generated Nanoparticles, Zurich (Switzerland), June 22-25, 2014.
  24. L. Tartakovsky, V. Baibikov, J. Czerwinski, M. Kasper, D. Popescu and M. Veinblat: Effects of a cabin filter on ultrafine particle concentrations inside passenger cars. 18<sup>th</sup> ETH-Conference on Combustion Generated Nanoparticles, Zurich (Switzerland), June 22-25, 2014 (*poster*).
  25. L. Tartakovsky\*, V. Baibikov, J. Czerwinski, A. Mayer, M. Veinblat: Diesel Particle Filter – an Efficient Tool for Mitigation of Nanoparticle Emissions from In-Use Heavy-Duty Vehicles. 3<sup>rd</sup> International Workshop on Nanoparticle Emissions from Heavy-Duty Engines, Tel-Aviv, September 8-9, 2014.
  26. J. Tenenbaum\*, M. Shapiro, L. Tartakovsky: An Analytical Model of a Two-phase Jet with Application to Fuel Sprays in Internal Combustion Engines. 20<sup>th</sup> SAE/JSAE Small Engine Technology Conference – SETC 2014, Pisa, Italy, November 18-20, 2014.
  27. L. Tartakovsky\*, R. Amiel, V. Baibikov, M. Veinblat: Prevention of fuel film formation by ultrasonic activation of the fuel spray impingement surface. SAE 2015 World Congress, Detroit MI, USA, April 21-23, 2015.
  28. A. Omari\*, M. Shapiro, L. Tartakovsky: Laminar burning velocity of alcohol steam reforming products and effects of cellularity on flame propagation. SAE 2015 World Congress, Detroit MI, USA, April 21-23, 2015.
  29. R. Fleischman\*, L. Tartakovsky: Nanoparticle Emissions from an SI Engine Fueled with Gasoline and Methanol Reforming Products. 19<sup>th</sup> ETH Conference on Combustion Generated Nanoparticles, Zurich, Switzerland, June 28 – July 1, 2015.
  30. J. Tenenbaum, M. Shapiro and L. Tartakovsky: An Analytical Model of a Gas-Droplet Jet with Application to Fuel Sprays in Internal Combustion Engines. The 2015 European Aerosol Conference, Milan, Italy, September 6-11, 2015 (*poster*).
  31. L. Tartakovsky\*, R. Amiel, V. Baibikov, R. Fleischman, M. Gutman, A. Poran, M. Veinblat: SI Engine with Direct Injection of Methanol Reforming Products – First Experimental Results. 21<sup>st</sup> SAE/JSAE Small Engine Technology Conference – SETC 2015, Osaka, Japan, November 17-19, 2015.
  32. R. Fleischman, R. Amiel, L. Tartakovsky: Buses retrofitting with diesel particulate filters: effects on nanoparticle emissions and vehicle performance. 20<sup>th</sup> ETH Conference on Combustion Generated Nanoparticles, Zurich, Switzerland, June 13 – 16, 2016 (*poster*).
  33. L. Tartakovsky\*, R. Amiel, R. Fleischman: Effects of diesel particle filters on performance of in-use buses. 4<sup>th</sup> International Workshop on Nanoparticle Emissions from Heavy-Duty Engines, Haifa, June 21, 2016.

34. R. Amiel\*, L. Tartakovsky: Effect of a Flight Altitude on the Knock Tendency of SI Reciprocating Turbocharged Engines. 22<sup>nd</sup> SAE/JSAE Small Engine Technology Conference – SETC 2016, Charleston, USA, November 15-17, 2016.
35. A. Eyal\*, L. Tartakovsky: Reforming Controlled Homogenous Charge Compression Ignition – Simulation Results. 22<sup>nd</sup> SAE/JSAE Small Engine Technology Conference – SETC 2016, Charleston, USA, November 15-17, 2016.
36. L. Tartakovsky\*: High-pressure thermochemical recuperation and its influence on combustion process in internal combustion engines. The 30<sup>th</sup> Annual Symposium of the Israeli Section of the Combustion Institute, Tel-Aviv, December 29 2016.
37. A. Poran\*, L. Tartakovsky: Direct-injection internal combustion engine for high-pressure thermochemical recuperation - experimental study. SAE 2017 World Congress, Detroit MI, USA, April 4-6, 2017.
38. V. Abramesco, J. Czerwinski, A. Mayer, L. Tartakovsky: A comparative analysis of ultrafine particles air pollution inside diesel-propelled passenger trains and intercity buses. 21<sup>st</sup> ETH Conference on Combustion Generated Nanoparticles, Zurich, Switzerland, June 19 – 22, 2017 (*poster*) - **3<sup>rd</sup> Best Poster Award**.
39. A. Thawko, A. Poran, L. Tartakovsky: High-Pressure Thermo-Chemical Recuperation – Benefits and Challenges. Presentation No. ESN-CU-P086, The 7th World Hydrogen Technology Convention, Prague, The Czech Republic, July 9-12, 2017 (*poster*).
40. G. Ben Haim\*, L. Tartakovsky: HCCI Combustion in a Wankel Engine: A Computational Feasibility Study. SAE 2018 World Congress, Detroit MI, USA, April 10-12, 2018.
41. L. Tartakovsky\*: Nanoparticle air pollution in train carriages. 5<sup>th</sup> International Workshop on Nanoparticle Emissions from Heavy-Duty Engines, Tel-Aviv, September 06, 2018.
42. A. Eyal\*, L. Tartakovsky: Reforming-Controlled Compression Ignition – a method combining benefits of Reactivity-Controlled Compression Ignition and High-Pressure Thermochemical Recuperation. 2019 SAE World Congress, Detroit MI, USA, April 9-11, 2019.
43. A. Thawko\*, H. Yadav, M. Shapiro, L. Tartakovsky: Particle emissions of a direct injection IC engine fed with a hydrogen-rich gaseous fuel. 23<sup>rd</sup> Conference on Combustion Generated Nanoparticles. Zurich, Switzerland, June 17 – 20, 2019.
44. A. Thawko, H. Yadav, M. Shapiro, L. Tartakovsky: Particle emission from direct injection internal combustion engine fed by hydrogen-rich reformat. European Aerosol Conference – EAC 2019, Gothenburg, Sweden, August 25-30, 2019 (*poster*).
45. I. Chanin, L. Tartakovsky: Ultrafine particle emissions of a diesel engine fed with dimethyl-ether blends. European Aerosol Conference – EAC 2019, Gothenburg, Sweden, August 25-30, 2019 (*poster*).
46. A. Thawko\*, L. Tartakovsky: RANS simulation of a multicomponent underexpanded gaseous jet mixing – effects of composition and injection conditions. 25<sup>th</sup> SAE/JSAE Small Engine Technology Conference – SETC 2019, Hiroshima, Japan, November 19-21, 2019.



47. A. Eyal, L. Tartakovsky: Exergy Analysis of an IC Engine with the Reforming-Controlled Compression Ignition. 25<sup>th</sup> SAE/JSAE Small Engine Technology Conference – SETC 2019, Hiroshima, Japan, November 19-21, 2019 (*poster*).
48. D. Buntin, L. Tartakovsky: Reforming-Controlled Compression ignition with Methylal as a Primary Fuel. 25<sup>th</sup> SAE/JSAE Small Engine Technology Conference – SETC 2019, Hiroshima, Japan, November 19-21, 2019 (*poster*).
49. D. Buntin, L. Tartakovsky: Reforming-controlled compression ignition with OME<sub>1</sub>. The 33<sup>rd</sup> Annual Symposium of the Israeli Section of the Combustion Institute, Tel Aviv, Israel, December 26, 2019 (*poster*) – **Best Poster Award, 1<sup>st</sup> prize**
50. K. Karsenty, L. Tartakovsky, I. Sher, E. Sher\*: Two-Stroke Diesel Engine with In-Cylinder Steam Reforming for High Altitude Operation. International Conference on Direct-Injection Two-Stroke Engines, IFP School, Rueil-Malmaison, France, February 13-14, 2020.
51. A. Thawko\*, A. Eyal, M. Shapiro, L. Tartakovsky: A comparative analysis of ultrafine particle emissions by a garbage truck with CNG and diesel engine retrofitted with a diesel particle filter. European Aerosol Conference – EAC 2020, Aachen, Germany, August 30 – September 04, 2020 (*off-site presentation due to COVID-19 restrictions*).
52. A. Thawko\*, H. Yadav, M. Shapiro, L. Tartakovsky: Effect of Lubricant Formulation on Characteristics of Particle Emission from Engine Fed with a Hydrogen-Rich Fuel. SAE 2020 International Powertrains, Fuels & Lubricants Digital Summit, Krakow, Poland, September 22-23, 2020 (*online event due to COVID-19 restrictions*).
53. A. Thawko\*, S.A. Persy, A. Eyal, L. Tartakovsky: Effects of Fuel Injection Method on Energy Efficiency and Combustion Characteristics of SI Engine Fed with a Hydrogen-Rich Reformate. SAE 2020 International Powertrains, Fuels & Lubricants Digital Summit, Krakow, Poland, September 22-23, 2020 (*online event due to COVID-19 restrictions*).

### **Participation in organizing conferences**

- |             |  |
|-------------|--|
| 2010 – 2018 | <b><u>Founding Chairman</u></b> , 1 <sup>st</sup> – 5 <sup>th</sup> International Workshop on Nano-Particle Emissions from Heavy-Duty Vehicles. Tel Aviv – Haifa. Above 100 attendees at the last event in Tel-Aviv on September 06, 2018. |
| 2012 – 2020 | <b><u>Founding Chairman</u></b> , 1 <sup>st</sup> – 9 <sup>th</sup> Conferences on Propulsion Technologies for Unmanned Aerial Vehicles, Technion, Haifa. Above 200 attendees in 2019.   |
| 2018        | <b><u>Founding Chairman</u></b> , SAE International Symposium on Waste Heat Recovery, Haifa, Israel, May 23-24, 2018. <b><u>First ever SAE scientific conference in Israel</u></b>   |
| 2004 – 2015 | <i>Member, Organizing Committee</i> , Israeli Conference on Automotive Engineering, Herzlia.   |
| 2014        | <i>Member, Scientific Committee</i> , 6 <sup>th</sup> International Conference on Advanced Concepts in Mechanical Engineering, Iasi, Romania, June 12-13, 2014.  |
| 2014        | <i>Member, General Committee</i> , SAE Small Engine Technology Conference (SETC)   |

- 2013 – present     *Member, Technical Committee, SAE Small Engine Technology Conference (SETC)*
- 2014                *Co-organizer, Emissions sessions, 20<sup>th</sup> SAE Small Engine Technology Conference (SETC), Pisa, Italy, November 18-20, 2014.*
- 2015                *Organizer, Propulsion Systems & Vehicle Engineering sessions, 33<sup>rd</sup> Israeli Conference on Mechanical Engineering – ICME 2015, Tel-Aviv, March 2-3, 2015.*
- 2015                *Organizer, Emissions sessions, 21<sup>st</sup> SAE Small Engine Technology Conference SETC-2015, Osaka, Japan, November 17-19, 2015.*
- 2016                *Organizer, session FFL 270 “Combustion in Gaseous Fueled Engines”, SAE 2016 International Powertrains, Fuels & Lubricants Meeting, Baltimore, Maryland, USA, October 24-26, 2016.*
- 2016                *Organizer, session FFL 540 “Small Engines Technology”, SAE 2016 International Powertrains, Fuels & Lubricants Meeting, Baltimore, Maryland, USA, October 24-26, 2016.*
- 2016                *Member, Scientific Committee, 7<sup>th</sup> International Conference on Advanced Concepts in Mechanical Engineering, Iasi, Romania, June 9-10, 2016.*
- 2016                *Organizer, Emissions session, 22<sup>nd</sup> SAE Small Engine Technology Conference SETC-2016, Charleston, USA, November 15-17, 2016.*
- 2016                *Organizer, Propulsion Systems & Vehicle Engineering sessions, The 34<sup>th</sup> Israeli Conference on Mechanical Engineering – ICME 2016, Tel-Aviv, November 22-23, 2016.*
- 2017                *Co-Organizer, Emissions session, 23<sup>rd</sup> SAE Small Engine Technology Conference SETC-2017, Jakarta, Indonesia, November 15-17, 2017.*
- 2017                *Organizer, session FFL 460 “Gaseous Engine Emissions”, SAE 2017 International Powertrains, Fuels & Lubricants Meeting, Beijing, China, October 16-19, 2017.*
- 2017                *Member, International Scientific Committee, VII International Congress on Combustion Engines – PTNSS 2017, Poznan, Poland, June 27-29, 2017.*
- 2018                *Organizer, session SETC 5 “Emissions”, 24<sup>th</sup> SAE Small Engine Technology Conference SETC-2018, Dusseldorf, Germany, November 6-8, 2018.*
- 2019                *Co-Organizer, session FFL 270 “Combustion in Gaseous Fueled Engines”, SAE 2019 International Powertrains, Fuels & Lubricants Meeting, San-Antonio, USA, January 22-24, 2019.*
- 2019                *Co-Organizer, session HX 103 “Energy Efficiency of Thermal Systems”, SAE World Congress, Detroit, USA, April 9-11, 2019.*
- 2019                *Organizer, session SETC 5 “Emissions”, 25<sup>th</sup> SAE Small Engine Technology Conference SETC-2019, Hiroshima, Japan, November 19-21, 2019.*

Leonid TARTAKOVSKY

- 2019            *Co-Organizer, session TMSS 300 “Powertrain Thermal Systems and Energy Management”, SAE Thermal Management Systems Symposium, Plymouth, MI, USA, October 15-17, 2019.*
- 2020            *Co-Organizer, session FFL 270 “Combustion in Gaseous-Fueled Engines”, SAE 2020 International Powertrains, Fuels & Lubricants Digital Summit (online event), Krakow, Poland, September 22-23, 2020.*
- 2020            *Organizer, session FFL 330 “Alternative and Advanced Fuels”, SAE 2020 International Powertrains, Fuels & Lubricants Digital Summit (online event), Krakow, Poland, September 22-23, 2020.*
- 2021            *Member, Organizing Committee, International Conference on Mechanical & Automobile Engineering, Munich, Germany, July 01-03, 2021.*