



Technion – Israel Institute of Technology
Faculty of Mechanical Engineering
Internal Combustion Engines Lab

Ministry of National Infrastructures,
Energy and Water Resources

Association of Engineers, Architects and
Graduates in Technological Sciences in
Israel

Directorate of Defense Research &
Development (DDR&D)
Aeronautical Division

Conference Program

4th Conference on Propulsion Technologies for Unmanned Aerial Vehicles

Thursday, January 29, 2015

Shirley and Manny Ravet Auditorium, D. Dan and Betty Kahn Building
Faculty of Mechanical Engineering, Technion, Haifa

8:30 – 9:00	Welcome and Registration
Opening session	Chairperson: Leonid Tartakovsky, Technion
9:00 – 9:30	Welcome: Wayne D. Kaplan , Executive Vice President for Research, Technion Yoram Halevi , Dean, Faculty of Mechanical Engineering, Technion Uri Zvikel , Head Propulsion Branch, Directorate of Defense Research & Development, MAFAT Emanuel Liban , Chairman, Israeli Society of Mechanical Engineers
9:30 – 10:00	Keynote address: Internal combustion engines for UAV Wai Cheng , Director, Sloan Automotive Lab, MIT, USA
Morning plenary session	Chairperson: Yitzhak (Itche) Hochmann, Edmatech
10:00 – 10:30	UAS Operational Evaluation, Integration and Aging Challenges in the Israeli Air Force Col. Erez Kabariti , Israeli Air Force
10:30 – 11:00	UAV Engines in Operational Environments – Lessons Learnt and Technical Implications Hemi Oron , Senior Director, UAV Engines Plant, Elbit Systems - UAS
11:00 – 11:30	Coffee break
Noon plenary session	Chairperson: Kobi Feldman, Israeli Aerospace Industries
11:30 – 12:00	Automotive Technology in UAV Propulsion Systems Emanuel Liban , Edmatech Ltd. – CEO
12:00 – 12:25	Progress in Development of a Small Rotary SI Engine N. Shkolnik , A. Shkolnik , D. Littera and M. Nickerson , LiquidPiston, Inc., USA
12:25 – 12:50	UAV Engine Control Development Using a Model-Based Design Environment Yonathan Nassau , Menachem Lerer , UAS Division, Elbit Systems

12:50 – 14:00	Lunch
Afternoon session "New Concepts"	Chairperson: Nir Geva, Elbit Systems
14:00 – 14:25	Development of a PCM-based engine for Micro Aerial Vehicles (MAV) J. Fuchs, A. Lidor, <u>E. Sher</u> and D. Weihs, Technion
14:25 – 14:50	Solar High Altitude Unmanned Vehicle Propulsion System Feasibility Analysis D. Weihs and M. Harmatz, Technion
14:50 – 15:15	Common-rail fuel injection systems for diesel engines with piezo-injectors Erez Mosafi, Ledico – Bosch Israel
15:15 – 15:40	Experimental study of burning velocities of hydrogen-rich gaseous fuels Ahmad Omari and Leonid Tartakovsky, Technion
Afternoon session "Engine Design & Performance"	Chairperson: Gil Finder, Israel Defense Forces
14:00 – 14:25	Supercharging of UAV engines – benefits and challenges Yehuda Fass, Israeli Aerospace Industries
14:25 – 14:50	Engine design and performance optimization through advanced simulation tools Arnon Poran and Leonid Tartakovsky, Technion
14:50 – 15:15	Knock and surface ignition problems in UAV spark-ignition engines and ways of their prevention Ran Amiel ¹ , Kobi Cohen ² and Leonid Tartakovsky ¹ 1 – Technion; 2 – Israeli Air Force
15:15 – 15:40	Four-Stroke Engine with a Port in the Cylinder Sleeve A.L. Zhmudiyak, <u>L.M. Zhmudiyak</u>
Closing remarks 15:40 – 15:50	Leonid Tartakovsky, Chairman Organizing Committee

* The Program is subject to changes

Participation in the Conference is free of charge, however early registration is required.

Conference Chairman:

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