



ענף הנעה  
המחלקה לאירונטיקה  
היחידה למו"פ-היחידה לתשתיות  
מנהלת פיתוח אמל"ח ותשתיות  
משרד הביטחון



המעבדה למנועי סילון וטורבינות גז  
הפקולטה להנדסת אירונטיקה וחלל  
הטכניון, חיפה

<http://jet-engine-lab.technion.ac.il>



ענף הנעה  
מחלקת מטוסים  
להק ציוד  
חיל האוויר

יום העיון האחד עשר  
במנועי סילון וטורבינות גז  
**11<sup>th</sup> Israeli Symposium on Jet Engines  
and Gas Turbines**

October 25 2012, Tehnion, Israel

**BOOK OF ABSTRACTS**

יום ה', ט' במר חשוון תשע"ג, 25/10/2012  
8:00 – 16:45, אולם בטלר, בניין פורשהיימר, מוסד נאמן, הטכניון



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## THE 11<sup>TH</sup> ISRAELI SYMPOSIUM ON JET ENGINES AND GAS TURBINES

Thursday, October 25, 2012 (9:00-17:00),

Butler Auditorium, Forchheimer Building, Neaman Institute (Building #260), Technion, Haifa

The 11<sup>th</sup> Israeli Symposium on Jet Engines and Gas Turbines will be held on Thursday, October 25, 2012 at the Butler Auditorium, Forchheimer Building, Neaman Institute (Building #260), Technion, Haifa. The last few years has seen a considerable expansion of activities in Israel in jet propulsion. This is in addition to the serial production of small engines, increased electricity generation using gas turbines and combined cycles, production of various engines' spare parts and maintenance work and more. In Israel, many bodies are active in jet engines and gas turbine area, including: MAFAT (MoD), IAF, Israel Navy, EL-AL, IAI, Beit Shemesh Engines, RAFAEL, TAAS, ORMAT, Israel Electric Corporation, R-Jet & Becker Engineering, the Technion and more.

Improved engineering and technological innovations and new projects in Israel calls for continued professional meetings; for the exchange of information, cross-pollination and creating a fertile seedbed for cooperation. The ten previous symposia attended by about 100 scientists were a great success, wetting the appetite for more such meetings.

The 11<sup>th</sup> symposium will include 17 presentations including 5 invited introductory lectures on selected subjects from large jet engine manufacturers and experts. This will also be a good opportunity for professional meetings, exchange of ideas and presentation of models and products from various companies.

All presentations will be published in full or, as a "censored" version after the conference on the conference website. In addition there will be opportunity to present/display promotional material. Please contact the undersigned for this purpose.

Looking forward to seeing you at the symposium,

Professor Yeshayahou Levy  
Chairman of the symposium

**11th ISRAELI SYMPOSIUM ON JET ENGINES & GAS TURBINES  
OCTOBER 25 2012**

Butler Auditorium, Forchheimer Building, Neaman Institute (Building #260), Technion, Haifa

## PROGRAM

<b>08:00 - 09:15</b>	<b>הרשמה (Registration)</b>
<b>09:15 - 09:35</b>	<b>Opening:</b>
	Prof. Yeshayahou Levy, Chairman, Head, Turbo and Jet Engine Laboratory, Faculty of Aerospace Engineering, Technion.
	Prof. Yoram Tambur , Dean, Faculty of Aerospace Engineering, Technion.
	Ltc. Roni Gordana, Head, Propulsion Systems Branch, Aeronautical Division, MOD.
	Lt.Col. Shlomi Konforty, Head of Propulsion Branch, IAF
<b>09:35 - 13:00</b>	<b>9:30 - 12:35 מושב ראשון (First Session, GUEST SPEAKERS, English) - Auditorium</b>
	<b>Session Chairman: Moshe Levy, IAF</b>
<b>A1</b>	Tom Johnson, United Technologies / Pratt & Whitney, F-35 Aircraft / F135 Propulsion System Design and Development Integration Challenges
<b>A2</b>	John Quinn General Manager. GE Military Propulsion Engineering, GE,, "Emerging Trends in Aviation Propulsion"
<b>10:55 - 11:15</b>	<b>הפסקה וכיבוד קל (Break and refreshments)</b>
<b>A3</b>	David Ogden and Susan Zubik, Southwest Research Institute® (SwRI®), Texas, USA, "A Multivariate Statistical Approach to Improved and Automated Engine Trending and Diagnostics (ET&D)"
<b>A4</b>	Boris Glezer, Optimized Turbine Solutions, USA, "Engine Thermal Transient Problems and Possible Solutions"
<b>A5</b>	Stefano Bianchi, Rolls-Royce plc, Derby, UK, "Tip Noise Passive Control in Low Mach Number Axial Fan"
<b>13:00 - 14:00</b>	<b>ארוחת צהריים (Lunch)</b>

## PROGRAM (cont')

14:00 - 15:15	Second Session- AERO-THERMODYNAMICS (English) - Auditorium	14:00 - 15:15	Forth Session - SYSTEMS (Hebrew) – Side Hall
	<b>Session Chairman:</b> <b>Savely Khosid, Rafael</b>		<b>Session Chairman: Dr. Albert levy,</b> <b>Bet Shemesh Engines</b>
<b>A6</b>	<i>Louis M. Larosiliere, Concepts NREC, Vermont,USA,</i> " High-Efficiency, Wide-Operability, and Highly-Loaded Axial Compressors: Case History of Potential Impact of 3D Aerodynamic Inverse Design Technique "	<b>A12</b>	<i>Y. Hain, Dr. B. Chudnovsky, N. Rappoport, M. Reshef, Israel Electric Corporation (IEC) S. Baitel - DOR Chemicals, Haifa,</i> "Methanol, as a low cost alternative fuel for emission reduction in gas turbines"
<b>A7</b>	<i>Beni Cukurel, Technion,</i> "Principle And Practice Of Hotwire Constant Temperature Anemometry In Turbomachinery Applications"	<b>A13</b>	<i>Ilan Berlowitz, Bedek Aviation Group, IAI,</i> "Continued Airworthiness Aircraft Engine Interface"
<b>A8</b>	<i>Andy Martin, Technical Support/Sales Manager, ZOK International Group Limited,</i> "Compressor Cleaning in Demanding Environments"	<b>A14</b>	<i>Effie Mouzikansky, IAF</i> "(Accelerated Mission Test) AMT בניית מנוע"
15:15 – 15:30	הפסקה וכיבוד קל (Break and refreshments)	15:15 - 15:30	הפסקה וכיבוד קל (Break and refreshments)
15:30 - 16:45	Third Session - CYCLES & OPERATION (Hebrew)	15:30 - 16:45	Fifth Session - MAINTANANCE (Hebrew)
	<b>Session Chairman: Savely Khosid, Rafael</b>		<b>Session Chairman: Yitzhak Hochmann, Edmatech</b>
<b>A9</b>	<i>D. Lior, RJet,</i> "Turbocharging of microturbines"	<b>A15</b>	<i>Eyal Aronson, IAF,</i> "Investigation of JT3D's Nozzle Guide Vanes failure".
<b>A10</b>	<i>Leitner Amiram and Zeev Shavit Rafael and Beker Engineering,</i> "On the Development of Air Cycle Machine for Cooling Airborne Pods"	<b>A16</b>	<i>Yosi Kazas, IAI</i> "מגמות בשוק MRO למנועים"
<b>A11</b>	<i>Ofer Weiss, Albert levy, Bet Shemesh Engines Ltd, Israel,</i> "Influence of casting process on natural frequencies of turbine blades"	<b>A17</b>	<i>Prosper Dayan, Phase3 Technologies Ltd,</i> "Maintenance system for rotating machines with electrical connection"
SUMMARY - סיומ ונעילת הכינוס		16:45	