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**Tel-Aviv and Haifa, Israel
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Volume 1 of 3

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**Program for Wednesday, February 19, 2014
Dan Panorama Hotel, Tel Aviv**

**Registration
08:00-09:00**

Welcoming Address

Hall A

Chair: Cohen, Gad Israel Aerospace Industries

09:00-09:30

Shamir, Yair,
Minister of Agriculture and Rural Development

WePI1PI1

Hall A

Plenary Lecture I - Hanin Prize Lecture (Plenary Session)

Chair: Oshman, Yaakov Technion

09:30-10:20

WePI1PI1.1

Can Active Flow Control Provide a Paradigm Shift in Airplane Design (talk by Hanin Prize Winner) N/A

Wyganski, Israel Univ. of Arizona

Networking Coffee Break

10:20-10:50

WePI2PI2

Hall A

Plenary Lecture II (Plenary Session)

Chair: Shtayman, Zvi Israel Aerospace Industries

10:50-11:40

WePI2PI2.1

Multi-Layer Air Defense System As a System of Systems N/A

Levy, Boaz Israel Aerospace Industries

WePI3PI3

Hall A

Plenary Lecture III (Plenary Session)

Chair: Givoli, Dan Technion

11:40-12:30

WePI3PI3.1

Virtual Testing of Composites and Its Role in Composite Aerospace Structures N/A

Waas, Anthony Univ. of Michigan

Lunch
12:30-14:00

WeL1T1	Hall A
Student Competition I (Regular Session)	

Chair: Katoshevski, David	Ben Gurion Univ.
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14:00-14:20	WeL1T1.1
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SAMSON 2012-2013 Student Project 1

Brack, Daniel	Ben Gurion Univ.
Vaknin, Eliav	Technion
Farhi, Elad I.	Technion
Szyfer, Jean Jacques	Technion
Koretsky, Evgeney	Technion
Dvorkin, Ze'ev	Technion
Barda, Amir	Technion
Ricardo, Hadar	Technion
Mizrahi, Izhak	Technion
Kariv, Daniel	Technion

14:20-14:40	WeL1T1.2
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Birdinator - Design of a Mechanical Bird 20

Yermichov, Yana	Technion
Arzi, Shai	Technion
Solomon, Ariel	Technion
Meir, Mathan	Technion
Galperin, Evgeny	Technion
Iosilevskii, Gil	Technion

14:40-15:00 WeL1T1.3

ALTAU: Twin Engine Unmanned Aircraft 62

Cohen, Golan	Tel Aviv Univ.
Danon, Amir	Tel Aviv Univ.
Gutwillig, Yishai	Tel Aviv Univ.
Horesh, Shi	Tel Aviv Univ.
Menashe, Moran	Tel Aviv Univ.
Nissim, Ofir	Tel Aviv Univ.
Orenstein, Eldad	Tel Aviv Univ.
Schwartz, Doron	Tel Aviv Univ.
Tubi, Ofir	Tel Aviv Univ.
Tsach, Shlomo	APG, Israel
Kats, Eli	Israel

15:00-15:20 WeL1T1.4

Single Engine Unmanned Aerial Vehicle 93

Zabari, Sharon	Tel Aviv Univ.
Almougy, Yoav	Tel Aviv Univ.
Rotenberg, Ranan	Tel Aviv Univ.
Ingber, Dan	Tel Aviv Univ.
Ben- Zeev, Eyal	Tel Aviv Univ.
Scharf, Nitzan	Tel Aviv Univ.
Shani, Elad	Tel Aviv Univ.
Gatigno, Ketty	Tel Aviv Univ.
Friedman, Yoni	Tel Aviv Univ.

15:20-15:40 WeL1T1.5

DBF 2013 - Mazlatov 113

Kramf, Chai	Technion
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15:40-16:00 WeL1T1.6

*D2R: A 50 Passengers Electric Motorized
Commercial Aircraft 146*

Saar, Oz	Technion
Geras, Yana	Technion
Granot, Asaf	Technion
Gros, Shira,	Technion
Kamoun, David,	Technion
Matzkevitz, Lior	Technion
Meir, Tomer	Technion
Rosenheim, Mor	Technion
Stepanova, Inna	Technion

WeL1T2 Hall B
Student Competition II (Regular Session)

Chair: Yaniv, Aaron Israel Aerospace Industries

14:00-14:20 WeL1T2.1

*The Design, Construction and Calibration of a
New Low Speed Wind Tunnel at Afeka Academic
College of Engineering 174*

Ben-Arie, Ran	Afeka Tel Aviv Acad. Coll. of Engineering
Chernyavsky, Miroslav	Afeka Tel Aviv Acad. Coll. of Engineering
Steshin, Anton	Afeka Tel Aviv Acad. Coll. of Engineering
Zilberman, Moshe	Israel Aerospace Industries

14:20-14:40 WeL1T2.2

*Parametric Analysis of Stirling Engine
Performance. 187*

Dahan, Gal Ben Gurion Univ.

14:40-15:00	WeL1T2.3
<i>"Parash - Anti Tank Missile" 192</i>	
Swissa, Roy	Technion
Achache, Yonathan	Technion
Elfassi, Roei	Technion
Tsin-Shwartz, Irit	Technion
Brimerg, Nevo	Technion
Ben Uri, Erez	Technion
Gottlieb, Ido	Technion
Zamir, Yossi	Technion
Rubel, Itay	Technion
Kootzenko, Michael	Technion
Boasson, Micha	RAFAEL

15:00-15:20	WeL1T2.4
<i>Feasibility Analysis of "smart" Bearing 208</i>	
Khmelnitsky, Michael	Ben-Gurion Univ.

15:20-15:40	WeL1T2.5
<i>Preliminary R&D of a Multipurpose UAV 217</i>	
Vorsin, David	Ben Gurion Univ.
Arogeti, Shai	Ben-Gurion Univ.

WeL1T3	Hall C
Student Competition III (Regular Session)	

Chair: Seifert, Avi	Tel Aviv Univ.
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14:00-14:20	WeL1T3.1
<i>Investigation of the Flow Field Over the NACA-0009 Airfoil at Reynolds Numbers below 40000: A Combined Surface and Volumetric Approach 234</i>	
Elfassi, Roei	Technion
Elimelech, Yossef	Univ. of Cambridge

14:20-14:40	WeL1T3.2
<i>Turbulent Flows on a Rotating Sphere Research 249</i>	
Offner, Avshalom	Ben Gurion Univ.

14:40-15:00	WeL1T3.3
<i>Effect of Thermal Boundary Conditions on Propagation of Sound Waves in a Rarefied Gas 276</i>	
Pogorelyuk, Leonid	Technion
Manela, Avshalom	Technion
15:00-15:20	WeL1T3.4
<i>Aerodynamic Characteristics of Hovering Hummingbird Wing (Calypte Anna) During Moulting of Primary Flight Feathers 289</i>	
Neeman, Noam	Technion
Avsaid, Dorin	Technion
Elimelech, Yossef	Univ. of Cambridge
15:20-15:40	WeL1T3.5
<i>Numerical and Experimental Study of a Fluttering Membrane Strip 308</i>	
Kariv, Daniel	Technion
Mizrahi, Izhak	Technion
Raveh, Daniella	Technion

WeL1T4	Hall D
Aerodynamics I (Regular Session)	
Chair: Gat, Amir D.	Technion

14:00-14:20	WeL1T4.1
<i>Transition Control on High-Lift Low Reynolds Numbers UAV Wings 326</i>	
Abramov, Danny	Israel Aerospace Industries
Klein, Yonatan	Israel Aerospace Industries
Shepshelovich, Misha	Israel Aerospace Industries
14:20-14:40	WeL1T4.2
<i>Transition to Turbulence in Couette Flow 342</i>	
Karp, Michael	Technion
Cohen, Jacob	Technion

14:40-15:00 WeL1T4.3

Toward Reliable and Efficient Laminar-Turbulent Flow Transition Predictions in Supersonic and Hypersonic Flows Over Complex Geometries 352

Paredes, Pedro Univ. Pol. de Madrid

Gennaro, Elmer Univ. São Paulo

Theofilis, Vassilis Univ. Pol. Madrid

15:00-15:20 WeL1T4.4

Two-Element Fixed Hinge Airfoil for Low Reynolds Numbers 363

Nagel, Alexander Israel Aerospace Industries

Bauminger, Shlomo Israel Aerospace Industries

Selvaraj, K. ADE, India

15:20-15:40 WeL1T4.5

Development of High-Lift Mild-Stall UAV Airfoil with Post-Stall Flight Capabilities 373

Abramov, Danny Israel Aerospace Industries

Klein, Yonatan Israel Aerospace Industries

Shepshelovich, Misha Israel Aerospace Industries

15:40-16:00 WeL1T4.6

Active Flow Control of Complex Configurations 395

Minasyan, Artur Tel Aviv Univ.

Sidilkover, David Soreq NRC

Seifert, Avi Tel Aviv Univ.

WeL1T5 Hall E

Aerospace Structures Design (Regular Session)

Chair: Weller, Tanchum Technion

14:00-14:20 WeL1T5.1

EU Cooperative R&D Programs: Looking Back on Over 15 Years – Has It All Been Worthwhile? 411

Nathan, Arnold Israel Aerospace Industries

14:20-14:40 WeL1T5.2

Development of Innovative Composite Control Surface 421

Zilberman, Lior Elbit systems – Cyclone

14:40-15:00 WeL1T5.3

Composite Aircraft Structures from 3D Woven Preforms 439

Miller, Zev	Israel Aerospace Industries
Rubinstein, Daniel	Israel Aerospace Industries
Yurovich, Yaniv	Israel Aerospace Industries
Green, Anthony	Israel Aerospace Industries
Rosenfeld, Hary	Israel Aerospace Industries
Ghilai, Gila	Israel Aerospace Industries
Leibovich, Herman	Israel Aerospace Industries

15:00-15:20 WeL1T5.4

LOCOMACHS – Low Cost Manufacturing and Assembly of Composite and Hybrid Structures 442

Rozowsky, Kevin	Israel Aerospace Industries
Ghilai, Gila	Israel Aerospace Industries
Green, Anthony	Israel Aerospace Industries
Leibovich, Herman	Israel Aerospace Industries
Miller, Zev	Israel Aerospace Industries

15:20-15:40 WeL1T5.5

Reconsidering the Process of Laboratory Vibration Simulation Program Definition for an Airborne Store in Captive Straight Flight 447

Sherf, Zeev	Private Consultant
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15:40-16:00 WeL1T5.6

Improving the Correlation of Finite Element Models Using Vibration Correlation Technique on Composite Cylindrical Shells 453

Arbelo, Mariano	PFH
Castro, Saullo G. P.	PFH - Private Univ. of Applied Sciences, EMBRAER - Brazilia
Khakimova, Regina	DLR
Degenhardt, Richard	DLR

WeL1T6		Hall F
Missile Guidance (Regular Session)		
Chair: Shinar, Josef		Technion
14:00-14:20	WeL1T6.1	
<i>Open Loop Solution for the Linear Quadratic Generalized Consensus Control Problem 460</i>		
Weiss, Martin	TNO Organization	
14:20-14:40	WeL1T6.2	
<i>An Optimal Missile Guidance Law with a Jerk Constraint 471</i>		
Grinfeld, Natan	Technion	
Ben-Asher, Joseph Z.	Technion	
14:40-15:00	WeL1T6.3	
<i>Optimum Transient Guidance Laws for Interceptor Missiles: A Linear-Quadratic Optimal Control Approach 488</i>		
Weiss, Martin	TNO Organization	
Shima, Tal	Technion	
15:00-15:20	WeL1T6.4	
<i>Near - Optimal Minimum Time Guidance under Spatial Angular Constraint in Atmospheric Flight 495</i>		
Indig, Nahshon	Technion	
Ben-Asher, Joseph Z.	Technion	
Sigal, Erez	Technion	
15:20-15:40	WeL1T6.5	
<i>"Time-To-Go Adaptive" Estimation in Interception Endgames 525</i>		
Shinar, Josef	Technion	
Turetsky, Vladimir	Ort Braude Coll.	

Networking Coffee Break
16:00-16:30

WeL2T1		Hall A
Space Systems (Regular Session)		
Chair: Mishne, David		Consultant
16:30-16:50	WeL2T1.1	
<i>Angular Momentum Unloading by Aerodynamic Torque in a Satellite 535</i>		
Marsh, Golan	Israel Aerospace Industries	
Verbin, Dov	Israel Aerospace Industries	
16:50-17:10	WeL2T1.2	
<i>Satellite Cluster Flight Using Fixed-Magnitude Cyclic Control 546</i>		
Zhang, Hao	Technion	
Gurfil, Pini	Technion	
17:10-17:30	WeL2T1.3	
<i>Differential Drag for Cluster Flight Using Mean Orbital Elements 564</i>		
Ben Yaacov, Ohad	Technion	
Gurfil, Pini	Technion	
17:30-17:50	WeL2T1.4	
<i>Stability Analysis and Testing of a Docking Simulator 572</i>		
Zebenay, Melak	DLR/GSOC - German Space Agency	
Boge, Toralf	DLR/GSOC - German Space Agency	
Choukroun, Daniel	Delft Univ.	
17:50-18:10	WeL2T1.5	
<i>Spacecraft Attitude and Rate Estimation and Control Using the SDRE Method 609</i>		
Choukroun, Daniel	Delft Univ.	
Tekinalp, Ozan	Middle East Technical Univ.	

WeL2T2 Hall B

Flow Control (Regular Session)

Chair: Glezer, Ari Georgia Inst. of Technology

16:30-16:50 WeL2T2.1

Synthetic-Jet-Based Flow Control for Performance Enhancement of a Vertical Tail 635

Rathay, Nicholas Rensselaer Pol. Inst.
Amitay, Miki Rensselaer Pol. Inst.
Whalen, Edward The Boeing Company

16:50-17:10 WeL2T2.2

Flow Control Applied to the Rounded Front Edges of a Square Prism 658

Lubinsky, Gad Tel Aviv Univ.
Seifert, Avi Tel Aviv Univ.

17:10-17:30 WeL2T2.3

Airfoil Performance Enhancement by Suction and Pulsed Blowing 675

Sarkorov, Dmitri Tel Aviv Univ.
Seifert, Avi Tel Aviv Univ.

17:30-17:50 WeL2T2.4

Characterization of the Suction and Oscillatory Blowing Actuator in Still Fluid 691

Troshin, Victor Tel Aviv Univ.
Shtendel, Tom Tel Aviv Univ.
Palei, Vitali Tel Aviv Univ.
Seifert, Avi Tel Aviv Univ.

17:50-18:10 WeL2T2.5

Active Flow Control Maneuvering System 703

Dolgopyat, Danny Tel Aviv Univ.
Seifert, Avi Tel Aviv Univ.

18:10-18:30 WeL2T2.6

Balanced Truncation of System Models Augmented with Aliased Wave-Number Pairs for Plane Poiseuille Flow State Estimation 721

Friedman, Aaron Technion

Oshman, Yaakov Technion

Cohen, Jacob Technion

WeL2T3 Hall C

Aeroelasticity (Regular Session)

Chair: Tahan, David RAFAEL

16:30-16:50 WeL2T3.1

Reynolds-Averaged Navier-Stokes Study of the Transonic Limit Cycle Oscillation Phenomenon on the F-16 Fighter Aircraft 744

Iovnovich, Michael IAF

Michaels, Dan IAF

Adar, Motti IAF

Raveh, Daniella Technion

16:50-17:10 WeL2T3.2

Aeroservoelastic Optimization of Wing with Varying Sweep Angle 766

Buchnik, Shlomi RAFAEL

17:10-17:30 WeL2T3.3

Aeroelastic and Aerothermoelastic Behavior of a Hypersonic Vehicle Control Surface 783

Friedmann, Peretz Univ. of Michigan

Lamorte, Nicolas Univ. of Michigan

17:30-17:50 WeL2T3.4

Dynamic Response of Accelerated Rocket with Nonlinear Effects 813

Karpel, Moti Technion

Shousterman, Alex Israeli CFD Center

Livshits, David IMI

Yujelevski, Yevgeny IMI

17:50-18:10 WeL2T3.5

Dynamic Loads in Response to Wake Encounter 824

Claverías, S. Airbus Military
Cerezo, J. Airbus Military
Torralba, M.A. Airbus Military
Reyes, Manuel Airbus Military
Climent, Hector Airbus Military
Karpel, Moti Technion

18:10-18:30 WeL2T3.6

Aeroelastic CFD Analysis of a Rotating Propeller 838

Levy, Yuval Israeli CFD Center
Raveh, Daniella Technion

WeL2T4 Hall D
Fatigue and Fracture Mechanics (Regular Session)

Chair: Banks-Sills, Tel Aviv Univ.
Leslie

16:30-16:50 WeL2T4.1

Modernization of the S-N Diagram for Fatigue Life Analysis 852

Brot, Abraham Israel Aerospace Industries

16:50-17:10 WeL2T4.2

Investigation of Crack Nucleation in the Vicinity of Cold-Worked Fastener Holes 864

Freed, Yuval Israel Aerospace Industries
Dolev, Orly Israel Aerospace Industries
Amran, Yogev Israel Aerospace Industries

17:10-17:30 WeL2T4.3

Probabilistic Crack Growth Behavior of Aluminum 2024-T351 Alloy Using the "Unified" Approach 877

Maymon, Giora RAFAEL

17:30-17:50 WeL2T4.4

Automated Gust Loads Spectrum for Fatigue Analyses of Aircraft 889

Diamant, Gary Israel Aerospace Industries
Buimovich, Yael Israel Aerospace Industries

WeL2T5	Hall E
Combustion and Propulsion I (Regular Session)	
Chair: Greenberg, J. Barry	Technion
16:30-16:50	WeL2T5.1
<i>Start/Unstart Process for a Sudden Opening of a Mixed Compression Inlet System of a Ramjet Engine 899</i>	
Vaynshtein, Alexander	Technion
Arieli, Rimon	Technion
16:50-17:10	WeL2T5.2
<i>Stability of Rich, Organic Gellant-Based Fuel, Premixed Spray Flames 921</i>	
Greenberg, J. Barry	Technion
Kagan, Leonid	Tel Aviv Univ.
Sivashinsky, Gregory	Tel Aviv Univ.
17:10-17:30	WeL2T5.3
<i>Phase-Change-Materials (PCM) Energy Source for Micro Aerial Vehicles (MAV) 928</i>	
Lidor, Alon	Technion
Weihs, Daniel	Technion
Sher, Eran	Ben-Gurion Univ.
17:30-17:50	WeL2T5.4
<i>Parametric Investigation of a Hybrid Motor Using Paraffin and Nitrous Oxide 944</i>	
Sisi, Shani	Technion
Gany, Alon	Technion
17:50-18:10	WeL2T5.5
<i>Student-Hybrid-Thruster Testing and Research 960</i>	
Kitsche, Wolfgang	German Aerospace Center, DLR

WeL2T6		Hall F
Estimation and Fault Tolerant Control (Regular Session)		
Chair: Idan, Moshe		Technion
16:30-16:50	WeL2T6.1	
<i>Fault-Tolerant Spacecraft Attitude Control Via Jump-Linear Quadratic Control 971</i>		
Sadon, Aviran	Ben-Gurion Univ.	
Choukroun, Daniel	Delft Univ.	
16:50-17:10	WeL2T6.2	
<i>Modeling and Analytic Error Assessment of Gyro-Free INS 989</i>		
Klein, Itzik		Technion
17:10-17:30	WeL2T6.3	
<i>N-Ocular Satellite Relative State Estimation 1009</i>		
Jigalin, Anton	Technion	
Gurfil, Pini	Technion	
17:30-17:50	WeL2T6.4	
<i>Signal Processing in Cold Atom Interferometry - Based INS 1022</i>		
Willis, Kara	US Air Force	
Pachter, Meir	AFIT/ENG	
17:50-18:10	WeL2T6.5	
<i>Tracking an Extended Maneuvering Target Using a Novel Modeling of Systems with Random Parameters 1042</i>		
Sigalov, Daniel	Technion	
Michaeli, Tomer	Weizmann Inst. of Science	
Oshman, Yaakov	Technion	
18:10-18:30	WeL2T6.6	
<i>Analysis of Multilateration Algorithms for Location of Aircraft at Airports 1052</i>		
Valdestilhas, Andre	Technological Institute of Aeronautics	

18:30-19:30

Hall D

**General Meeting of
the Israel Society of Aeronautics & Astronautics**

19:30

Dekel Hall

Festive Dinner

**Program for Thursday, February 20, 2014
The Technion, Haifa**

Welcoming Address

Chair: Raveh, Daniella Technion

09:20-09:30

Lavie, Peretz, President of Technion

**ThPI1PI1 Churchill Auditorium
Plenary Lecture IV (Plenary Session)**

Chair: Gurfil, Pini Technion

09:30-10:20 ThPI1PI1.1

The Mechanics of Exploring Asteroids N/A

Scheeres, Daniel University of Colorado

**ThPI2PI2 Churchill Auditorium
Plenary Lecture V (Plenary Session)**

Chair: Brandes, Amit Elbit Systems, ELOP

10:20-11:10 ThPI2PI2.1

*Development Direct Infrared Countermeasure
System for Civil Aviation N/A*

Brandl, Armona Elbit Systems, ELOP

**Networking Coffee Break
11:10-11:40**

**ThPI3PI3 Churchill Auditorium
Plenary Lecture VI (Plenary Session)**

Chair: Cohen, Jacob Technion

11:40-12:30 ThPI3PI3.1

Flying with Virtual Control Surfaces N/A

Glezer, Ari Georgia Inst. of Technology

**Lunch
12:30-13:40**

ThL1T1	Room 149
Guidance and Task Assignment (Regular Session)	
Chair: Weinreb, Avi	IMOD-DDR&D
13:40-14:00	ThL1T1.1
<i>Dubins Vehicle Interception of a Moving Target 1059</i>	
Meyer, Yizhaq	Technion
Shima, Tal	Technion
Isaiah, Pantelis	Technion
14:00-14:20	ThL1T1.2
<i>Task Assignment and Motion Planning in the Presence of Obstacles and Prioritized Targets 1076</i>	
Gottlieb, Yoav	Technion
Shima, Tal	Technion
14:20-14:40	ThL1T1.3
<i>On the Discretized Dubins Travelling Salesman Problem 1101</i>	
Epstein, Chen	Technion
Cohen, Izack	Technion
Shima, Tal	Technion
14:40-15:00	ThL1T1.4
<i>Optimal LQG Synthesis for Simplified Models - Non-Separable Control and Estimation Design 1121</i>	
Geller, David	Utah State Univ.
Leiter, Noam	Technion
15:00-15:20	ThL1T1.5
<i>Optimal LQG Synthesis for Reduced Models - Non-Separable Control and Estimation Design 1145</i>	
Leiter, Noam	Technion
Geller, David	Utah State Univ.
15:20-15:40	ThL1T1.6
<i>A Control Theoretic Approach to the Dubins Travelling Salesperson Problem 1175</i>	
Isaiah, Pantelis	Technion
Shima, Tal	Technion

ThL1T2	Room 150
Aerospace Structures Design and Testing (Regular Session)	

Chair: Ghilai, Gila	Israel Aerospace Industries
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13:40-14:00	ThL1T2.1
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Evaluation of the THz Technology for the Non Destructive Inspection of Aeronautics Composite Materials 1181

Sternberg, Yehuda	Israel Aerospace Industries
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14:00-14:20	ThL1T2.2
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Field Experience of Measures in Systems Integration & Testing Phase Using STAM Methodology 1189

Assaraf, Sarit	Israel Aerospace Industries
Kenett, Ron	The KPA Group, and Univ. of Turin

14:20-14:40	ThL1T2.3
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How Realistic Is the Laboratory Simulation of the Vibration Regime in a Missile Free Flight? 1199

Sherf, Zeev	Private Consultant
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14:40-15:00	ThL1T2.4
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Railgun Test of Nano-Reinforced Layered Composite Materials for Ballistic Impact and Electromagnetic Shielding 1207

Micheli, Davide	Sapienza Univ. of Rome
Pastore, Roberto	Sapienza Univ. of Rome
Vricella, Antonio	Sapienza Univ. of Rome
Marchetti, Mario	Sapienza Univ. of Rome
Moglie, Franco	Univ. Pol. delle Marche
Mariani Primiani, Valter	Univ. Pol. delle Marche
Gradoni, Gabriele	Univ. of Maryland
Albano, Marta	Univ. Sapienza

15:00-15:20	ThL1T2.5
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Verification Study on Buckling Behaviour of Composite Cylinder with Eccentric Supports 1216

Kalnins, Kaspars	Riga Technical Univ.
Ozolins, Olgerts	Riga Technical Univ.
Arbelo, Mariano	PFH
Degenhardt, Richard	DLR
Castro, Saullo G. P.	PFH - Private Univ. of Applied Sciences, EMBRAER - Brazilia

ThL1T3	Room 235
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Solid Mechanics (Regular Session)

Chair: Durban, David	Technion
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13:40-14:00	ThL1T3.1
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Computational Coupling of 1D and 2D Models for Aerospace Structures 1222

Ofir, Yoav	Technion
Givoli, Dan	Technion
Rabinovich, Daniel	Technion

14:00-14:20	ThL1T3.2
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Thermal Stresses Analysis in Functionally Graded Beams 1231

Emuna, Nir	Technion
Durban, David	Technion

14:20-14:40	ThL1T3.3
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Experimental Assessment of the Specific Cavitation Energy in Polycarbonate Plate Perforation 1238

Weiss, Alon	Plasan
Durban, David	Technion

14:40-15:00	ThL1T3.4
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Survey and Summary of Composite and Homogenous Closed Ended Cylindrical Pressure Vessels Using Parametric Examination 1244

Nagler, Jacob	Technion
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15:00-15:20 ThL1T3.5

Buckling and Postbuckling of Truncated Conical Shells with Varying Semi-Vertex Angle: The Use of the Single Perturbation Load Approach 1271

Khakimova, Regina DLR
Zimmermann, Rolf DLR
Castro, Saullo G. P. PFH - Private Univ. of Applied Sciences, EMBRAER – Brazilia
Degenhardt, Richard DLR
Arbelo, Mariano PFH

15:20-15:40 ThL1T3.6

Ritz Method for the Analysis of Unstiffened Laminated Composite Cylinders and Cones under Axial Compression 1285

Castro, Saullo G. P. PFH - Private Univ. of Applied Sciences, EMBRAER - Brazilia
Mittelstedt, Christian SOGETI High Tech GmbH
Monteiro, Francisco A. C. ITA
Arbelo, Mariano PFH
Khakimova, Regina DLR
Degenhardt, Richard DLR

ThL1T4 Room 240
Aerodynamics II (Regular Session)

Chair: Iosilevskii, Gil Technion

13:40-14:00 ThL1T4.1

Complete RANS Simulation of a Propelled Generic UAV with the Blade Element Model 1303

Chetboun, Jonathan Israel Aerospace Industries
Rubin, Teddy Israel Aerospace Industries
Seror, Stephane Israel Aerospace Industries

14:00-14:20 ThL1T4.2

*Design of Wing for Business Jet Using
Optimization Code OPTIMAS 1324*

Steinbuch, Moshe Israel Aerospace Industries
Hasin, David Israel Aerospace Industries
Bauminger, Shlomo Israel Aerospace Industries

14:20-14:40 ThL1T4.3

*Computational Study of Shock-Buffet on 3D
Wings 1337*

Iovnovich, Michael IAF
Raveh, Daniella Technion

14:40-15:00 ThL1T4.4

*Flow Control Techniques for Improved
Performance of a Darrieus Type Wind Turbine 1369*

Morgulis, Nir Tel Aviv Univ.
Seifert, Avi Tel Aviv Univ.

15:00-15:20 ThL1T4.5

*On the Effect of Boundary Layer Suction on the
Boundary Layer State at the Trailing-Edge and
Noise Reduction 1388*

Arnold, Benjamin Univ. of Stuttgart
Lutz, Thorsten Univ. of Stuttgart
Krämer, Ewald Univ. of Stuttgart
Abzalilov, Damir Kazan Federal Univ.

15:20-15:40 ThL1T4.6

*Experimental Investigation of the Transition in
Pipe Flow 1399*

Cohen, Jacob Technion
Mehta, Vyomesh Technion
Pearlstein, Arne J. Univ. of Illinois

ThL1T5	Room 241
Estimation and Filtering (Regular Session)	
Chair: Weiss, Haim	RAFAEL
13:40-14:00	ThL1T5.1
<i>Application of Optimal Estimation Techniques for Precise Placement of Free-Form Optical Elements 1411</i>	
Rapoport, Ilia	Elbit Systems, ELOP
Mazor, Tal	Elbit Systems, ELOP
Brandes, Amit	Elbit Systems, ELOP
14:00-14:20	ThL1T5.2
<i>Anisotropic Filtering Revisited - the Linear Time-Varying Case 1423</i>	
Yaesh, Isaac	IMI
STOICA, ADRIAN-MIHAIL	Univ. Pol. of Bucharest
14:20-14:40	ThL1T5.3
<i>A Joint Filter for Formation Tracking 1433</i>	
Klein, Itzik	Technion
Rusnak, Ilan	RAFAEL
14:40-15:00	ThL1T5.4
<i>Comparison of EKF and SDDRE Based Estimation of 2D Coordinated Turn Maneuvers 1444</i>	
Rusnak, Ilan	RAFAEL
Benaloul, Oron	RAFAEL
Peled-Eitan, Liat	RAFAEL

ThL1T6	Library
Aeroelasticity and Fluid-Structure Interaction (Regular Session)	

Chair: Karpel, Moti	Technion
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13:40-14:00	ThL1T6.1
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Wind Loads and Control of Flexible Structures Embedded in a Turbulent Boundary Layer 1471

Friedland, Ori	Tel Aviv Univ.
Troshin, Victor	Tel Aviv Univ.
Seifert, Avi	Tel Aviv Univ.

14:00-14:20 ThL1T6.2

Dynamics of Viscous Liquid within a Closed Elastic Cylinder Subject to External Forces with Application to Soft-Robotics 1486

Elbaz, Shai B. Technion

Gat, Amir D. Technion

14:20-14:40 ThL1T6.3

The Influence of Rigid-Body Rotations on Vortex-Induced Vibration of Elastically Restrained Cylinders in Two-Dimensional Compressible Flow 1498

Dubrovsy, Alex Technion

Gottlieb, Oded Technion

Degani, David Technion

14:40-15:00 ThL1T6.4

Energy Harvesting for Sensors by Using Free-Floating Flaps: Wind Tunnel Experiments 1504

Bernhammer, Lars Delft Univ.
Oliver

De Breuker, Roeland Delft Univ.

Karpel, Moti Technion

15:00-15:20 ThL1T6.5

Airfoil Gust Response in Low Reynolds Numbers 1515

Tiomkin, Sonya Technion

Raveh, Daniella Technion

15:20-15:40 ThL1T6.6

Regions of Attraction and the Flutter Suppression Problem 1532

Demenkov, Max Inst. of Control Sciences

Networking Coffee Break

15:40-16:00

ThL2T1	Room 149
Combustion and Propulsion II (Regular Session)	

Chair: Sher, Eran	Ben-Gurion Univ.
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16:00-16:20	ThL2T1.1
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The Role of Fuel-Spray Oscillations in the Formation of Multiple Flames 1545

Katoshevski, David	Ben Gurion Univ.
Greenberg, J. Barry	Technion

16:20-16:40	ThL2T1.2
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Experimental Investigation of a Two-Dimensional Solid Fuel Scramjet Combustion Chamber 1549

Chernov, Victor	Technion
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ThL2T2	Room 150
Aerospace Systems (Regular Session)	

Chair: Skladman, Rami	Israel Aerospace Industries
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16:00-16:20	ThL2T2.1
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Z-Axis Micro Gyroscope with Optical Sensing Technique 1558

Zohar, Ohad Edward	RAFAEL
Maimon, Ronen	RAFAEL
Tepper-Faran, Tamar	RAFAEL
Krylov, Slava	Tel Aviv Univ.

16:20-16:40	ThL2T2.2
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Civil Transport Aircraft Cabin Environment and Air Quality 1567

Berlowitz, Ilan	Israel Aerospace Industries
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16:40-17:00	ThL2T2.3
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Air Transport Engineering Maintenance Operations 1602

Berlowitz, Ilan	Israel Aerospace Industries
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17:00-17:20	ThL2T2.4
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Executive Aircraft Emergency Landing Simulation and Analysis 1642

Zaphir, Zvi	Israel Aerospace Industries
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17:00-17:20 ThL2T3.4

System of Systems Test Evaluation 1708

Lapid Maoz, Judith Israel Aerospace Industries
Klein, Einat Israel Aerospace Industries

17:20-17:40 ThL2T3.5

*Clean Sky: The Future of the Aviation Industry -
Developments at Israel Aerospace Industries 1715*

Mirovsky, Yehudith Israel Aerospace Industries
Bendov, Arye Israel Aerospace Industries
Leibovich, Herman Israel Aerospace Industries
Gurman, Anat Israel Aerospace Industries
Yurovich, Yaniv Israel Aerospace Industries
Diskin, Alex Israel Aerospace Industries
Steckelman, Yoav Israel Aerospace Industries
Ramati, Shlomo Israel Aerospace Industries
Idel, Snir Israel Aerospace Industries
Kalman, Yehuda Israel Aerospace Industries
Gerhard, Mody Israel Aerospace Industries
Rubinstein, Daniel Israel Aerospace Industries

ThL2T4 Room 240

Control Theory and Applications (Regular Session)

Chair: Cohen, Agnes IMI

16:00-16:20 ThL2T4.1

Tracking Errors of Simple Adaptive Control 1724

Rusnak, Ilan RAFAEL
Weiss, Haim RAFAEL
Barkana, Itzhak BARKANA Consulting

16:20-16:40 ThL2T4.2

*Mixed H2 and Hinfinity Output-Feedback Simple
Adaptive Control 1748*

Ben Yamin, Rabin Tel Aviv Univ.

16:40-17:00	ThL2T4.3
<i>SPOC Based Real-Time Adaptive Control of Uncertain Linear Drive System 1757</i>	
Rusnak, Ilan	RAFAEL
Zuckerman, Yarden	Technion
Furshpan, Mor	Technion
17:00-17:20	ThL2T4.4
<i>Wave Based Velocity and Position Control of Membranes 1782</i>	
Sirota, Lea	Technion
Halevi, Yoram	Technion
17:20-17:40	ThL2T4.5
<i>A Pareto Optimization Solution for a 2nd Order Servo Model Identification 1790</i>	
Wetzler, Michael	IMI
Shmaya, Yaniv	IMI
Yaesh, Isaac	IMI
17:40-18:00	ThL2T4.6
<i>Seeker Head Line-Of-Sight Control Using Sliding-Mode Control 1803</i>	
Fursht, Gilad	Technion
Idan, Moshe	Technion
ThL2T5	Room 241
Structures Health Monitoring (Regular Session)	
Chair: Abramovich, Haim	Technion
16:00-16:20	ThL2T5.1
<i>Composite Structures Health Monitoring by Static and Dynamic End Effects 1823</i>	
Gecht, Michael	Technion
Karp, Baruch	Ben-Gurion Univ.
Durban, David	Technion

16:20-16:40 ThL2T5.2

Implementation of a Fiber-Optic Sensing Technology for Global Structural Integrity Monitoring of UAVs 1833

Shapira, Osher	Israeli Air Force
Shelly Kedem	Israeli Air Force
Benny Glam	Israeli Air Force
N.Y. Shemesh	Israeli Air Force
Ariel Dvorjetski	Israeli Air Force
Naama Mashiach	Israeli Air Force
Jonathan Balter	Israel Aerospace Industries
Roman Shklovsky	Israel Aerospace Industries
Ido Sovran	Tel Aviv Univ.
Nachum Gorbатов	Tel Aviv Univ.
Iddo Kressel	Israel Aerospace Industries
Moshe Tur	Tel Aviv Univ.

16:40-17:00 ThL2T5.3

Active Sensing for Health Monitoring of Solid Rocket Motors 1840

Lopatin, Craig	Technion R&D Foundation
Grinstein, Dan	Israel Ministry of Defense

ThL2T6 Library
Computational Fluid Dynamics (Regular Session)

Chair: Yaniv, Sara IMI

16:00-16:20 ThL2T6.1

Separated Flow Prediction Using Reynolds Stress Models 1847

Mor-Yossef, Yair	Israeli CFD Center
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16:20-16:40 ThL2T6.2

Compressibility Effect for Turbulence Models at Supersonic and Hypersonic Flow Regimes. Consistency and Implementation of Mathematical Models versus Flow Physics of Strongly Separated Flows 1859

Kosarev, Leonid	Israel Aerospace Industries
Seror, Stephane	Israel Aerospace Industries
wexler, jonathan	Israel Aerospace Industries

16:40-17:00 ThL2T6.3

Conjugate Heat Transfer and Turbulent Navier-Stokes Simulations in a Convergent Divergent Nozzle 1896

Peles, Oren	IMI
Sudman, Yonadav	IMI
Yaniv, Sara	IMI

17:00-17:20 ThL2T6.4

Development of 3D Unstructured Accurate Turbulent SA RANS UNES Code Based on Open-Source 1908

Frydman, Eli	Israel Aerospace Industries
Marom, Shlomo	Israel Aerospace Industries
Seror, Stephane	Israel Aerospace Industries

17:20-17:40 ThL2T6.5

Four Years CFD Research and Development for a Hypersonic Viscous Reactive Multigrid RANS Code for Accurate Turbulent Heat Transfer of High Speed Dissociated Air Flow at Thermochemical Equilibrium 1921

Seror, Stephane	Israel Aerospace Industries
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