Overview:

Dr. Lev Yoav

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12:30-13:30 ימי שני

Civil Engineering

Lecture

Education:

- [2014-2018] Ph.D, Civil Engineering, Technion - Israel Institute of Technology.
    - Thesis: “Deformation and Failure of Rubberlike Materials” Adviser: Prof. Konstantin Volokh, Civil engineering, Technion
- [2002-2004] M.Sc. (Summa Cum Laude) Civil Engineering, Technion - Israel Institute of Technology
    - Thesis: Studies of a New Model of Tissue Growth based on Continuum Mechanics” Adviser: Prof. Konstantin Volokh, Civil engineering, Technion
- [1997-2001] B.Sc. (Cum Laude) Civil Engineering, Technion - Israel Institute of Technology

Publications:

Refereed journal publications

1. Volokh KY, Lev Y (2005) “Growth, anisotropy, and residual stresses in arteries”. Molecular and Cellular Biomechanics 2:27-40
2. Lev Y, Volokh KY (2016) “On cavitation in rubberlike materials”. Journal of Applied Mechanics 83:044501
3. Lev Y, Faye A, Volokh KY (2018) “Experimental study of the effect of temperature on strength and extensibility of rubberlike materials”. Experimental Mechanics 58:847-858

4. Lev Y, Faye A, Volokh KY (2019) “Thermoelastic deformation and failure of rubberlike materials”. Journal of the Mechanics and Physics of Solids 122:538-554
5. Faye A, Lev Y, Volokh KY (2019) “The effect of local inertia around the crack tip in dynamic fracture of soft materials”. Mechanics of Soft Materials 1:4
6. Goswami M, Gupta P, Lev Y, Chattopadhyay S, Volokh KY (2024) Multiaxial failure of dual-phase elastomeric composites. Engineering Fracture Mechanics 312:110625

Refereed book chapters

1. Lev Y, Volokh KY, Faye A (2019) A new calibration methodology for thermoelastic deformation and failure of rubberlike materials. In: Constitutive Models for Rubber XI. CRC Press, 151-156
2. Faye A, Lev Y, Volokh KY (2019) Modeling dynamic fracture in rubberlike materials. In: Constitutive Models for Rubber XI. CRC Press, 505-511

Articles in Conference Proceedings

1. Shor O., Lev Y. (2010) 11th International LS-DYNA User Conference. “Simulation of a Thin-Walled Aluminum Tube Subjected to Base Acceleration Using LS-DYNA's Vibro-Acoustic Solver”
2. Lev Y. (2010) ICME 2010 - The 31th Israeli Conference on Mechanical Engineering. “Analytical examination of the body response to two vibration points”
3. Lev Y. (2012) Conference on Chemical Research in Materials and Engineering. “Improving simulation capabilities of a large vibrated body using Model Based Design”
4. Lev Y. (2013) The 7th Israel International Conference on Systems Engineering. “Models and simulations of complex body vibrations”
5. Rubin A., Lev Y. (2014) 13th International LS-DYNA User Conference. “Preload release in steel bands under dynamic loading as function of the coefficient of friction”

6. Lev Y., Volokh KY (2015) 15th Pan American Congress of Applied Mechanics (PACAM). “On Cavitation in Rubber”
7. Kantor I., Lev Y. (2015) 10th European LS-DYNA User Conference. “Model Based Design of Pressure Profiles for Pyrotechnic Actuator Using SPH Method & LsOpt® Solution”
8. Lev Y. (2016) 14th International LS-DYNA User Conference. “Modeling Crack Propagation in Rubber”
9. Lev Y, Volokh KY, Faye A (2019) The European Conference on Constitutive Models for Rubber (ECCMR), “A new calibration methodology for thermo-elastic deformation and failure of rubber-like materials”
10. Lev Y, Volokh KY, Faye A (2020) ANSYS LST Conference “New Design Considerations for the Calibration of Rubber-like Materials”
11. Lev Y. (2024) LS-DYNA User Conference. “Modeling the Sloshing Phenomena of Fuel using LS-DYNA”

Experience:

2026 – Present - Lecturer at Braude College of Engineering, Israel

2025 – Present - Member of the Soft Materials Characterization Laboratory at the Technion – Israel Institute of Technology

2018 – 2026 – Associate researcher position and head of “Dynamic and Multi Physics Simulations Team” in a defense industry company.

2011 – 2017 – Head of the “Structural Dynamic and Optimization Team” in a defense industry company

2010 – 2011 – Engineer member in the “Structural Dynamic and Optimization Team” in a defense industry company

2007 – 2010 – Experimental and examination engineer in the environmental engineering department at a defense industry company

2004 – 2007 – Project manager at Arkal Automotive, develop and manufacture of parts for the automotive industry

Teaching Experience:

Lecturer - Introduction to the Finite Element Method, Civil engineering, Braude - College of Engineering; 2025

Lecturer - Introduction to the Finite Element Method, Mechanical and Civil engineering, Technion; 2022-2024

Lecturer (undergraduate level), Sami Shamoon College of Engineering, SCE : 2020- 2021.

Teaching Assistant - Strength of Materials, Technion 2004

Teaching Assistant - Engineering mechanics, Technion: 2003

Teaching Assistant - Statics of Structures, Technion: 2002.

Co-advisor for a student pursuing an M.Sc. degree – Since 2024

Research areas:

- Analysis of dynamic fracture and crack propagation for hyper-elastic materials
- Characterization of hyper-elastic materials using experiments and numerical simulations
- Predicting deformation of hyper-elastic materials under various loads, temperatures and high-rate loading conditions
- Advanced Finite Element Analysis (FEA), Structural Integrity and Multi-Physics Simulations