

CURRICULUM VITAE (JANUARY 15, 2020)

Personal

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FACULTY/DEPT Faculty of Engineering/School of Mechanical Engineering
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DATE AND PLACE OF BIRTH 09/10/1969, Odessa, Ukraine

date of immigration 08/04/1991

A. EDUCATION

Period of Study (DATES) Odessa National Polytechnic University, Odessa, Ukraine

Mechanical Engineering
not graduated due to immigration

Technion, Haifa, Israel
Agricultural Mechanics
B.Sc. Agricultural Engineering
09/1991-03/1996

M.Sc. Agricultural Engineering
03/1996-09/1998

Ph.D. Mechanical Engineering
09/1999-07/2003

Title of Master thesis Adaptive Suspension of the High-Mobility Off-Road Tracked Vehicle
Names of supervisors Dr. Per-Olof Gutman, Dr. Dror Rubinstein

Title of Doctoral Dissertation Characterization of Coherent Structures in Turbulent Boundary Layer
Names of supervisors Prof. Gad Hetsroni

B. FURTHER STUDIES

C. ACADEMIC AND PROFESSIONAL EXPERIENCE

2006-today School of Mechanical Engineering
Faculty of Engineering
Tel Aviv University
Professor (2017-)

2006-2011 Institute of Environmental Engineering, ETH Zurich, Switzerland
Department of Civil, Environmental and Geomatic Engineering
Visiting Professor

2003-2006 Institute of Environmental Engineering, ETH Zurich, Switzerland
Department of Civil, Environmental and Geomatic Engineering
Senior Research Associate

2008-2012 Boundary Layer Wind Tunnel Laboratory, University of Western Ontario, Canada
Visiting Researcher

2012 St. Anthony Falls National Laboratory, University of Minnesota,
Visiting Professor

D. ACTIVE PARTICIPATION IN SCIENTIFIC MEETINGS

1998 27th Israel Conference on Mechanical Engineering, Haifa, Israel (oral presentation)
Wheels and Tracks Symposium, Cranfield University, Swindon, UK(oral presentation)
IFAC Workshop on Motion Control, Grenoble, France(oral presentation)

1999 3rd Intl. Workshop on Particle Image Velocimetry, Santa Barbara, USA (oral presentation)

2001 4th International Symposium on PIV, Gottingen, Germany (oral presentation)

2002 IMECE02, New Orleans, USA (oral presentation)

2003 Proc. of the 29th Israel Conference on Mechanical Engineering, Haifa (oral presentation)
56th Annual Meeting of APS, Division of Fluid Dynamics, NJ, USA (oral presentation)

2005 4th International Symposium on Turbulence and Shear Flow Phenomena, Williamsburg, VA,
USA (oral presentation)
6th Int. Symposium on PIV, Pasadena, CA, USA (oral presentation)
iTi conference on Turbulence, Bad Zwischenahn, Germany (oral presentation)

2006 Turbulence and Interactions (TI2006), Porquerolles, France (oral presentation)

2007 11 European Turbulence Conference, Porto, Portugal (oral presentation)
Turbulence and Shear Flow Phenomena (TSFP-5), Munich, Germany (oral presentation)
2nd IMS Workshop on Acceleration in Turbulent flows, Imperial College, London, UK (**invited lecture**)

2008 2nd International Collaboration for Turbulence Research Workshop, Lyon, France (oral presentation)
48 Israel Aerospace Conference, Tel Aviv, Israel (oral presentation)

2009 49 Israel Aerospace Conference, Tel Aviv, Israel (**organizing committee, session chair**)
1st Experimental Workshop of COST action MP0806, Zurich, Switzerland (**organizing committee, session chair**)
European Turbulence Conference 12, Marburg, Germany (oral presentation)
62th Annual Meeting of APS Division of Fluid Dynamics, Minneapolis, USA (oral presentation)
Annual Meeting of the Israel Society of Theoretical and Applied Mechanics (**invited lecture**)

2010 31st Israel Conference on Mechanical Engineering (**organizing committee, session chair**)
2nd Workshop of COST MP0806 “Particles in Turbulence”, Zugspitze, Germany (**organizing committee**)
“Turbulence and Mixing” annual meeting, Eilat, (**invited lectures**)

2011 Workshop “Models versus physical laws/first principles, or why models work?”, Vienna, Austria (**invited meeting**)
COST MP0806 meeting “Fragmentation Processes in Turbulent Flows”, Sep. 16-17, Warsaw (**invited lecture**)
European Turbulence Conference (ETC13), Sep. 12-15, Warsaw (oral presentation)
APS Division of Fluid Dynamics meeting, Nov. 20-22, Baltimore, MD (oral presentation)

- 2012 Wolfgang Pauli Institute colloquium “Lagrangian-Euler aspects of turbulence”, May 7-9, Vienna (**invited lecture**)
 COST meeting “Non Ideal Particles and Aggregates in Turbulence” June 7 -9, Lecce (Italy) (**organizing committee**)
 32nd Israel Conference of Mechanical Engineering, ICME2012 (**session chair**), October 17-18, Tel Aviv University
 58th Annual Meeting of the Israel Physical Society (**session chair**), December 9, Jerusalem
- 2013 COST MP0806 Workshop “Open source particle tracking velocimetry”, April 29-May 3, Tel Aviv University (**organizer**)
 COST MP0806 Symposium “Particles in turbulence”, July 1-5, Eindhoven, The Netherlands
 European Turbulence Conference (ETC14), Sep. 1-4, Lyon, France (**session chair**)
 Workshop “Physical-Biological Interactions” , Oct. 6-11, IUI, Eilat, Israel (**invited lecture**)
 Workshop “Turbulence and amorphous materials” , November 8-15, Weizmann Institute, Eilat, Israel.
 ISTAM annual meeting, Dec. 1, Tel Aviv, Israel (**organizing committee**)
- 2014 ITI 2014 Turbulence Conference, Sep. 21-24, Italy
 ISTAM annual meeting, Dec. 24, Tel Aviv, Israel (**organizing committee**)
- 2015 ETC-15, European Turbulence Conference, Aug. 24-28, Delft, Netherlands (**sessions chair**)
 TI-2015 Turbulence and Interactions, Nov. 2-6, Corsica, France (**scientific committee**)
- 2016 COST “Flowing Matter”, Mar. 6-9, Lecce, Italy (**invited lecture, sessions chair**)
- 2017 “COMPLETE” Marie Curie Network Consortium Summer School and Workshop, May 2007, Tel Aviv (**organizer**)
- 2015-2017 Israel Society of Theoretical and Applied Mechanics, Tel Aviv University (**organizing committee**)
- 2017 European Turbulence Conference, Aug. 2017, Stockholm, (**session chair**)
- 2018 Particle resuspension workshop (by invitation) Sep. 2018, Nice

E. ACADEMIC AND PROFESSIONAL AWARDS

E.1 INTERNAL GRANTS (AT TAU)

- | YEAR | FOUNDATION TITLE | SUM | CO- RESEARCHERS | P.I. |
|------|--|---------|-----------------|---|
| 2007 | The Wolfson Family Charitable Trust fund “Lagrangian approach to key problems in fluid mechanics of multiphase flows” | 134,340 | GPB | <u>P.I. Alexander Liberzon</u> |
| 2007 | “Motivation” fund of the Vice-President for Research, TAU, | 30,000 | NIS | <u>P.I. Alexander Liberzon</u> |
| 2006 | “New Faculty Member fund”, Equipment fund of VATAT, | 350,000 | USD | <u>P.I. Alexander Liberzon</u> |
| 2010 | Nicholas and Elizabeth Slezak Super Center for Cardiac Research and Biomedical Engineering at Tel Aviv University, | 30000 | NIS | <u>P.I. Alexander Liberzon</u> |
| 2013 | Nicholas and Elizabeth Slezak Super Center for Cardiac Research and Biomedical Engineering at Tel Aviv University, | 30,000 | NIS | <u>P.I. Prof. Ran Koronowski and Alexander Liberzon</u> |
| 2015 | TAU Gordon Center for Energy Studies, | 45,000 | NIS | <u>PIs: Liberzon, A. and Dr. Alexander Golberg</u> |
| 2016 | Excellency in publication award, School of Mechanical Engineering, | 5,000 | NIS | <u>PI: Liberzon, A.</u> |
| 2018 | Raymond and Beverly Sackler Fund for Convergence Research in Biomedical, Physical and Engineering Sciences, TAU - UC Berkley | | | <u>PIs: Alexander Golberg, Boris Rubinsky, Alex Liberzon</u> “Thermodynamics, heat and mass transfer, and fluid flow based design of offshore seaweed farms for food and energy – principles of aquaculture.”, 24,000 USD |

2019	Innovation grant by the Vice President of Research, 100k\$, PIs: Fromm, Meroz, Golberg, <u>Liberzon, A.</u>
E.1.2 EXTERNAL GRANTS	
2008	Israel Science Foundation “New academic staff laboratory grant”, 100,000 USD, P.I. <u>Alex Liberzon</u>
2008-2013	Israel Science Foundation personal grant “Lagrangian study of two-phase turbulent flows”, 212,000 USD, P.I. <u>Alex Liberzon</u>
2009-2013	Bi-National Science Foundation (BSF), “Turbulent patch in stratified environment” 173,000 USD, three P.I. : Roi Gurka (BGU), <u>Alex Liberzon</u> and Pete Diamessis (Cornell Uni.)
2009-2011	The National Park Authority, the Ministry of Environmental Protection, “Electronic tagging of pesticides” 30,000 USD, P.I. Roi Gurka (BGU) and <u>Alex Liberzon</u>
2013-2017	GIF “Dilute polymers effects on energy transfer mechanisms in turbulent entrainment processes”, P.I. Bettina Frohnafel (KTI), Alexander Liberzon, 180,000 Euro
2013-2017	EU-FP7 consortium “EuHIT”, CP-CSA-INFRA, 20 EU infrastructures for High Reynolds Turbulence, 80,000 Euro
2012-2014	Chief Scientist “KAMIN” grant “Flexible blade rheometer”, P.I. <u>Alex Liberzon</u> , Daphne Weihs (Technion), Roi Gurka (BGU), 800,000 ILS
2014-2018	Bi-National Science Foundation (BSF), “Male moth mate preference during flight ” 210,000 USD, three P.I. : Ally Harari (Volcani Center), Roi Gurka (CCU) and <u>Alex Liberzon</u>
2014-2016	“Metro450” Magnet, 1,000,000 ILS, P.I. <u>Alex Liberzon</u>
2008-2013	Israel Science Foundation “Lagrangian study of turbulent entrainment across density interfaces”, 185,000 USD, P.I. <u>Alex Liberzon</u>
2016-2019	Horizon 2020 “COMPLETE” - European Training Network, 3.4 Mn Euro, leader: Prof. Daniela Tordella, P.I. <u>Alex Liberzon</u> with 6 EU universities and industrial partners.
2016-2019	Israel Ministry of Energy and Water Resources, “Assessment of offshore macroalgae biomass production for energy in Israel”, 500,000 ILS, PIs : Alexander Golberg, <u>Alex Liberzon</u> , Alvaro Israel, Ilan Koren
2016-2019	PAZY grant, Israel Atomic Energy Committee, in cooperation with the Israeli Institute of Biological Research, PIs: Eyal Fattal, Yardena Raviv-Bohbot, P.I. <u>Alex Liberzon</u> , “Turbulence statistics of canopy-flows using novel Lagrangian measurements in an atmospheric wind tunnel”, 1.2 Mln ILS
2016-2019	Ministry of Defense, PIs: Touvia Miloh, Avi Seifert, <u>Alex Liberzon</u> , “Control of particle motion in micro-channels”, 300,000 ILS/year
2017-2020	Ministry of Agriculture, PIs: <u>Alex Liberzon</u> , Ally Harari (Volcani center), Shlomo Margel (Bar Ilan) “Tracking synthetic sex pheromone dispersion in lab/field using nano-technology fluorescent marker”, 250,000 ILS/year
2017-2021	Ministry of Science, PIs: <u>Alex Liberzon</u> , Slava Krylov “MEMS flow sensors based on motion”, 210,000 ILS/year
E.2 Fellowships	
E.3 Scholarships	
2002	Excellence scholarship from the Graduate Studies School, Technion
2010	COST MP0806 “Particles in Turbulence” short-term scientific mission scholarship, EU FP7 program
E.4 Prizes	
1998	Y. Bitcover award for excellent graduate research at the Faculty of Agricultural Engineering, Technion
1995	Dean’s awards for excellence in undergraduate studies, Faculty of Agricultural Engineering, Technion

F. MEMBERSHIP IN PROFESSIONAL SOCIETIES

2008	APS
2003	EUROMECH
2003	ERCOFTAC
2008	COST (EU)
	Israel Society of Mechanical Engineering
2013	Israel Society of Biomedical Engineering
	Israel Society of Physics
	Israel Society of Theoretical and Applied Mechanics (committee)

G. STUDENTS SUPERVISED BY CANDIDATE

Post-doctoral students

2011-2013	Zachary J. Taylor
	Localized turbulent patches in stratified fluids
	Tel Aviv University
2016-2017	Adrea Gonzalez-Karlsson
	Moths navigation in turbulent plumes of pheromones
	Tel Aviv University and Volcani Center for Agricultural Research

PH.D. STUDENTS

2008-2015	Youry Borisenkov
	MEMS approach to hot-film sensors for turbulence research
	Tel Aviv University, co-supervised with Prof. Arkady Tsinober
2012-2017	Yosef Meller
	Resuspension of particles in turbulent flows
	Tel Aviv University
2014-2019	Lilly Verso
	Two-layer stratified turbulent flow
	Tel Aviv University
2016-2019	Ron Shnapp (direct track)
	Lagrangian dynamics of inertial particles in turbulence
	Tel Aviv University
2016-2020 (estimated)	Hadar Traugott
	Intensification of macro algae growth rate for biofuel production
	Tel Aviv University, primary adviser, co-supervised with Dr. Alexander Golberg
2016-2020 (estimated)	Marco Boetti
	Direct numerical simulation of Lagrangian statistics of particles crossing stratified interfaces
	Tel Aviv University
2017-2020 (estimated)	Yoav Kessler
	Non-linear micro-electro-mechanical sensors
	Tel Aviv University, primary adviser, co-supervised with Prof. Slava Krylov
2017-2020 (estimated)	Meiron Zollmann (direct track)
	Nutrients supply for macro-algae extensive growth off-shore application
	Tel Aviv University, co-supervised with Dr. Alexander Golberg (primary adviser)
2018-2022 (estimated)	Yftach Golov
	Development of environmentally friendly methods to protect agricultural crops from moths based on turbulent transport of odor
	Tel Aviv University, co-supervised with Dr. Ally Harary (Volcani) and Prof. Shlomo Margel (Bar Ilan)

M.Sc. Students

2007-2010 Reut Elfassi
Lid-driven cavity turbulent flow
Tel Aviv University

2007-2010 David Ratner
Lagrangian tracking of Kolmogorov size particles in turbulent flows
Tel Aviv University

2007-2008 Ephi Ezri
LUT-based calibration algorithm for the multi-hot-wire anemometry
Tel Aviv University

2007-2010 Mark Kreizer
Real-time image processing for particle tracking velocimetry
Tel Aviv University

2008-2009 Eduard Patlakh
Particle Image Velocimetry study of the flow around a white-head sparrow
Tel Aviv University, primary adviser, co-supervised with Dr. Roi Gurka, BGU

2008-2009 Assaf Barel
Particle Image Velocimetry study in a tornado-vortex simulation
Tel Aviv University, primary adviser, co-supervised with Dr. Roi Gurka, BGU

2008-2012 Dikla Kersh
Pulsating flows in a flexible tube
Tel Aviv University

2009-2012 Oleg Babin
Electronic tagging of pesticides
Tel Aviv University, primary adviser, co-supervised with Dr. Roi Gurka, BGU

2009-2014 David Altura
PC cooling using unsteady heat convection
Tel Aviv University, primary adviser, co-supervised with Prof. Neima Brauner

2010-2014 Hadar Traugott
Lagrangian approach to resuspension of particles in turbulent flows
Tel Aviv University

2010-2013 Hadar Ben Gida
Hydrofoil wake in stratified environment
Tel Aviv University, primary adviser, co-supervised with Dr. Roi Gurka, BGU

2011-2015 Hadar Biran
Non-intrusive flow rate measurements in coronary trees
Tel Aviv University, primary adviser, co-supervised with Prof. Idit Avrahami, Ariel University

2012-2014 Shlomo Markman
Fluid-structure interaction of a flexible blade rheometer
Tel Aviv University

2012-2016 Avi Friedman
Motion and fluid dynamics of micro-swimmers
Tel Aviv University, co-supervised with Dr. Gabor Kosa (primary adviser)

2012-2015 Mark Baevsky
Effects of dilute polymers on turbulent flows
Tel Aviv University

2012-2013 Lilly Verso
Particle dispersion across turbulent interfaces in stably stratified flows
Politecnico di Torino, co-supervised with Prof. Daniela Tordella (primary adviser)

2014-2016	Ron Schnapp Particle resuspension from smooth and rough surfaces Tel Aviv University
2013-2017	Shaily Wald Characterization of the valve influence on the pressure and on coronary perfusion rates Tel Aviv University, primary adviser, co-supervised with Prof. Idit Avrahami
2014-2017	Yoav Kessler Novel flow sensor based on the dynamics of MEMS double-clamped beams Tel Aviv University, co-supervised with Prof. Slava Krylov (primary adviser)
2015-2017	Oz Habibi Smart mixing methods for macro-algae extensive growth off-shore application Tel Aviv University, primary adviser, co-supervised with Dr. Alexander Golberg
2013-2019 (estimated)	Barak Even Chen Mechanical properties of the mitral valve leafs and their effect of the flow to the coronary tree Tel Aviv University, primary adviser, co-supervised with Prof. Idit Avrahami
2015-2018	Shirley Steinlauf Hemodynamic effects of various stent-graft placement configurations Tel Aviv University, primary adviser, co-supervised with Prof. Idit Avrahami
2017-2019	Lior Chertkow Experimental study of electrorheological flows in micro-channels Tel Aviv University
2017-2020 (estimated)	Sabrina Kalenko (Shlain) Experimental study of particles and turbulent flow through an engine nozzle Tel Aviv University
2017-2019	Ben Torteman Parametric resonance of micro-electro-mechanical sensors Tel Aviv University, co-supervised with Prof. Slava Krylov (primary advisor)
2017-2019 (estimated)	Tomer Ast Two-scale wind tunnel turbulence measurements using PIV and 3D-PTV Tel Aviv University

PROFESSIONAL DUTIES

2007-2010	Library committee, member, Faculty of Engineering
2010-2011	Graduate studies committee, member, Faculty of Engineering
2011-	Undergraduate students committee, member, Faculty of Engineering
2011-2013	Expert Committee of the Israel Institute of Standards "Water source heat pumps"
2013-2016	Faculty representative to Senate (Assoc. Prof.), Tel Aviv University
2014-	Head of Undergraduate Studies Program, School of Mechanical Engineering Head of the Curriculum Committee, School of Mechanical Engineering, Undergraduate students committee, Faculty of Engineering Curriculum committee, Faculty of Engineering
2019-	Associate Chair, School of Mechanical Engineering
2014-2016	GIF advisory panel
2015-2016	ISF advisory panel
2018-2019	Head of the ISF panel