

CURRICULUM VITAE

Name: Uri Kushnir

Date & place of birth: February 11, 1975, Israel.

Citizenship: Israeli

Marital status: Married +3.

Affiliation SCE – Shamoon College of Engineering.

E-mail: uri@lia-marine.com

Residence address: 7 Hakeren St., Karkur 76223, Israel.

Military service: 1993-1996 NCO reconnaissance unit, 1996-2015 Reserve NCO reconnaissance unit.

1. Academic education

- 2004-2009 Direct Ph.D. in Civil Engineering. Technion, Israel Institute of Technology, Israel. Dissertation title: *Physical Nonlinearity in Piezoelectric Active and Smart Structures – From Micromechanics to Engineering*
- 2005 Magister in Civil Engineering. The Technion, Israel Institute of Technology, Israel. For completing the requirements for a Magister degree as part of a direct Ph.D.
- 1999-2003 B.Sc. (Summa cum Laude) in Civil Engineering. The Technion, Israel Institute of Technology, Israel.

2. Academic employment

- 2018 Lecturer. Head of Port and Coastal Engineering Specialization. Department of Civil Engineering, SCE college of engineering, Ashdod Campus, Israel.
- 2017 Adjunct Senior Lecturer. Faculty of Civil and Environmental Engineering, Technion, Israel Institute of Technology, Haifa, Israel.
- 2005 Adjunct Teacher. Faculty of Civil and Environmental Engineering, Technion, Israel Institute of Technology, Haifa, Israel.
- 2003 Adjunct Assistant Teacher. Faculty of Civil and Environmental Engineering, Technion, Israel Institute of Technology, Haifa, Israel.
- 2001-2002 Teaching Assistant. Faculty of Civil and Environmental Engineering, Technion, Israel Institute of Technology, Haifa, Israel.

3. Civil engineering experience

- 2013-2018 CEO Coastal and Marine engineerin Research Institute, Technion, Israel.

2011-2018 CEO Lia Marine Ltd. Company for Coastal and port engineering, and hydrographic survey.

2010-2011 Engineering Manager Palgag Technologies Ltd.

2009-2010 Technical office manager – Oceana Marine Research Ltd.

2007-2009 Structural survivability engineer – Rafael Advanced Defence Systems Ltd.

4. Academic research and development activities

4.1. Previous research and development activities

2004-2009 (Ph.D. activity) Ferroelectric materials and their use for smart structure systems (7 peer reviewed papers).

4.2. Present research and development activities

Note: the activities listed bellow are part of commercial related R&D

Since 2014:

- Wave and current measurements,
- Ocean modeling,
- Hydrographic Survey,
- Detection in the marine environment.

5. Grants and awards

5.1. Grants

Note: Due to the fact that in recent years I was involved in Industry related applied R&D in the fields of coastal engineering, as part of my role in the Coastal and Marine Engineering Research Institute, I will include here **funding obtained for applied research by IPC – Israel Ports and Assets Company. The proposals were examined by a joint committee including Technion and IPC members.**

Role in Research	Co-Researchers	Topic	Funded by IPC/ Amount ILS	Year
Co-Pi	Y.Toledo E. Kit R. Sofer M. Glozman	Field, theoretical and laboratory investigations of nonlinear nearshore wave interactions and their effect on harbor agitation	1,000,000	2016

Co-Pi	Y.Toledo E. Kit R. Sofer M. Glozman	High frequency radars for wave heights and surface velocity measurements in Eastern Mediterranean	603,520	2016
Co-Pi	N. Drimer	A new concept of VLFS (very large floating structure) for Mediterranean Sea Conditions Offshore Israel	749,848	2017
Co-Pi	K. Kovler V. Mazalov	Multi Range Mobile laser monitoring of offshore structures	749,894	2017

5.2. Awards

Year	Degree	Prize/Scholarship
2001	B.Sc.	Eng. Grinshpan prize for best student in Fluid Mechanics
2002	B.Sc.	Izak Alpan prize for best student in Geomechanics
2002	B.Sc.	Nisim Sachi prize for best student in Statics of Structures 2
2003	B.Sc.	Berl Frid Leonards prize for best student in Soil and Foundation Engineering
2004	B.Sc	Prize in memory of the graduates of class 35 in civil engineering for Best Final Structural Engineering Project
2004	Magister	Excellence scholarship at winter semester
2005	Ph.D.	Special Excellence scholarship from the Miryam and Aharon Gutwirt Fund
2008	Ph.D.	Best Faculty Teaching Assistant
2010	Ph.D.	The Shulamit & Eng Tuvia Netzer prize for best faculty Ph.D Thesis.

6. List of publications

6.1. Peer reviewed papers

- Kushnir, U. and Rabinovitch, O. (2007) "Grain Orientation Scattering In the Nonlinear Constitutive Modeling of Piezoelectric-Ferroelectric Materials", *Journal of Intelligent Materials Systems and Structures* **18**(11): 1149-1163.
- Kushnir, U. and Rabinovitch, O. (2008) "Nonlinear Piezoelectric and Ferroelectric Actuators – Analysis and Potential Advantages" *Journal of Intelligent Material Systems and Structures* **19**(9):1077-1088.
- Kushnir, U. and Rabinovitch, O. (2008) "A Multiscale Approach to Nonlinearity in Piezoelectric-Ferroelectric Smart Structures – From Micromechanics to Engineering", *International Journal for Multiscale Computational Engineering*, **6**(5): 451-468
- Kushnir, U. and Rabinovitch, O. (2009) "A Principle of Virtual Work and Governing Equations for Nonlinear Ferro-Electro-Elasticity" *Acta Mechanica* **202**(1-4): 163-179.
- Kushnir, U. and Rabinovitch, O. (2009) "Advanced Piezoelectric-Ferroelectric Stack Actuator" *Sensors and Actuators – A / Physical*, **A150**(1):102-109.
- Kushnir, U. and Rabinovitch, O. (2009) "Nonlinear Ferro-Electro-Elastic Beam Theory" *International Journal of Solids and Structures*, **46**(11-12): 2397-2406.
- Kushnir, U. and Rabinovitch, O. (2011) "Electrical Body Forces and Electrical Traction in the Nonlinear Response of Piezoelectric-Ferroelectric Actuators" *European Journal of Mechanics – A/Solids*, **30**(2):137-144.
- U Kushnir, V. Frid Spectral acoustic fingerprints of sand and sandstone sea bottoms. *Marine Geophysical Research* (submitted)
- V. Frid, U. Kushnir. Microfracturing phenomenon prior to earthquakes in the vicinity of Syrian-African Fault. *Foundations, MDPI* (submitted)
- U Kushnir, V. Frid Application of Machine Learning for the classification of sand and sandstone by means of acoustic reflection. (in preparation)

6.2. Papers and abstracts – proceedings of conferences

6.2.1. Invited conference plenary lectures

- i. Kushnir, U. and Rabinovitch, O. (2009) "Physical, Analytical, and Computational Multiscales in Piezoelectric-Ferroelectric Structural Analysis" (2) Invited lecture in: *ASME International*

Mechanical Engineering Congress and Exposition, Nov. 11–19, 2009, Lake Buena Vista, FL.

6.2.2. Contributed conference presentations

- ii. Kushnir U. and Rabinovitch, O. (2008) "Advanced ferroelectric MFC actuators: the effect of ferro-elastic domain switching" *9th Biennial ASME Conference on Engineering Systems Design and Analysis (ESDA 2008)* – July 7-9 2008, Haifa, Israel.

6.3. Patents

1. Kushnir, U. and Rabinovitch, O. "Ferroelectric Stack Actuator and Shape Control Algorithm", US Patent No. 8,138,658.

6.4. Other publications/reports

1. איל לוי ווארי קושניר, בחינת היתכנות צינור למתקן התפלה באזור עכו, חוות דעת, יולי 2012
2. איל לוי ווארי קושניר, בחינת השימוש במי צפון מפרץ עכו כמי גלם למפעל התפלה, חוות דעת, אוקי 2012
3. אנא לוי, דפנה פיינגולד, תומר הדרי, עידו סלע, שמרית פרקול-פינקל, אפרת מייזר, ענבר שורץ, מיכאל סלדקביץ, מיכאל גלזמן, אורי קושניר, ואליעזר קיט. דוח ניטור לאחר גמר העמקת תעלת הכניסה הימית לנמל חיפה. פ.מ. 799/14. 2014
4. Levine, A. Sladkevich, M. Glozman, M. Keren, Y. Kushnir, U. Kit, E. "Processing of Hydrographic Data for the West Galili Region". Interim Report, P.N. 831/16. 2016.

7. Courses taught

Courses taught as a senior lecturer

- 2017 B.Sc. program. Statics of structures. Technion, Israel Institute of Technology, Israel (international school).

Courses taught as a teaching assistant

Note: The following courses I taught as an assistant giving the Tutorials to the courses

I taught each course for an accumulating period between one year and 2.5 years, some of them simultaneously between the years 2003 and 2007.

Year	Name of Course	Type Course	Degree	Number of Students
2003-2007	Introduction to Engineering Mechanics	Introduction Course (Mandatory)	Bs.C.	20-25

2003-2007	Strength Of Materials 1	Introduction Course (Mandatory)	Bs.C.	20-25
2003-2007	Structural Statics 1	High Learn Course	Bs.C.	15-20
2003-2007	Strength Of Materials 2	High Learn Course	Bs.C.	15-20
2003-2007	Concrete Structures 1	High Learn Course	Bs.C.	15-20