### CURRICULUM VITAE AND LIST OF PUBLICATIONS

#### **Personal Details**

Name Yossef, Hodara Hatzor

Date and place of September 17, 1959, Tel-Aviv, Israel

birth

Regular military November 1977 - November 1980

service

University Department of Geological and Environmental Sciences, Ben-Gurion, Address University of the Negev, P.O. Box 653, Beer-Sheva, 84105, ISRAEL.

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E-mail <u>hatzor@bgu.ac.il</u>

Homepage <a href="http://in.bgu.ac.il/teva/geological/eng/hatzor/Pages/Personal%20Details.aspx">http://in.bgu.ac.il/teva/geological/eng/hatzor/Pages/Personal%20Details.aspx</a>

Google Scholar <a href="https://scholar.google.co.il/citations?hl=en&user=T3sAMB4AAAJ&view\_op=list\_works">https://scholar.google.co.il/citations?hl=en&user=T3sAMB4AAAJ&view\_op=list\_works</a>



Ph. D. 1990 - 1992 Dept. of Civil Engineering, University of California, Berkeley

Advisor Prof. R. E. Goodman

Thesis Validation of Block Theory using Field Case Histories

M. S. 1988 - 1990 Dept. of Civil Engineering, University of California, Berkeley

Advisor Prof. R. E. Goodman

Thesis The Influence of Geological Structure on the Engineering of

Underground Openings in Discontinuous Rock Masses

M. Sc. (Cum Laude) 1985-1988 Dept. of Geology, Hebrew University of Jerusalem

Advisors Prof. A. Starinski; Prof. Z. Reches; Dr. Y. Mimran

Thesis The Geology of the Gilboa' Region

B. Sc. 1982-1985 Dept. of Geology, Hebrew University of Jerusalem

**Employment History** 

10/10 - Present Professor, BGU, Beer-Sheva, Israel

01/12 – 12/17 Visiting Professor, Institute of Rock and Soil Mechanics, Chinese Academy of Sciences,

Wuhan, China

11/09 Visiting Professor, School of Civil and Environmental Engineering, Nanyang Technical

University, Singapore

2/08 Visiting Professor, Department of Geological Engineering, Montana Tech., The University

of Montana, Butte, Montana, USA

10/04 Associate Professor, BGU

7/00 – 3/01 Visiting Associate Professor, Department of Civil and Environmental Engineering,

University of California, Berkeley, CA., USA

11/98 Tenure, BGU

4/98 Senior Lecturer, BGU

9/92 Lecturer, BGU, Beer-Sheva, Israel

7/92 - 8/92 Visiting Scientist, TerraTek Research Lab, Salt Lake City, Utah, USA

5/89 - 6/92 Teaching and Research Assistant, Department of Civil Engineering, Geotechnical

Engineering, University of California, Berkeley, CA., USA



10/85 - 7/88	Research Fellow, Mapping Division, Geological Survey of Israel, Jerusalem, Israel
10/85 - 6/87	Teaching Assistant, Department of Geology, Hebrew University, Jerusalem, Israel

### **Professional Activities**

## (a) Academic and administrative positions held at BGU

2018 - Present, Member, Promotions committee of Structural Engineering Dept.

2018 - Present, Member, Promotions committee of Faculty of Natural Sciences

2013 – 2017, Chair, Dept. of Geological and Environmental Sciences

1995 - Present, Director, Deichmann Rock Mechanics Laboratory

1993 - Present, Director, Academic Program in Engineering Geology

### (b) Professional functions outside the University

International Committ	ees, Boards, and Commissions	
2019	Scientific Committee	"PATA 2019" International Conference on Paleo-
		seismicity. 19-27 September, 2019. Caesarea, Israel.
2018	Intl. Scientific Committee	The 10 <sup>th</sup> Asian Rock Mechanics Symposium- ARMS 10
		October 2018, Singapore.
2018	Organizing Committee	52 <sup>nd</sup> US Rock Mechanics / Geomechanics Symposium:
		Seattle, USA, June 24-27, 2018.
2017	Intl. Scientific Committee	13 <sup>th</sup> International Conference on Analysis of Discontinuous
		Deformation, Tianjin, China, 8-10 December 2017.
2017	Local Organizing Committee	12 <sup>th</sup> EURO-conference on Rock Physics and Geomechanics
		Ma'ale HaHamisha, Israel, 5–10 November 2017.
2017	Intl. Scientific Committee	15 <sup>th</sup> International Conference of the International
		Association for Computer Methods and Advances in
		Geomechanics (15th IACMAG), October 19-23, 2017,
		Wuhan, China.
2016	Intl. Scientific Committee	EUROCK2016, Cappadocia (Ürgüp), Turkey, August 29 -
		31, 2016.
2016	Advisory and Organizing	The 1 <sup>st</sup> International Symposium on Reducing Risks in Site
	Committee	Investigation, Modelling and Construction for Rock
		Engineering (GEOSAFE2016). Xi'an, China 25-27 May,
		2016.
2015	Intl. Scientific Committee	12 <sup>th</sup> International Conference on Analysis of
		Discontinuous Deformation (ICADD-11), Wuhan, China,
		October 16 - 19, 2015.
2015	Session Developer	49 <sup>th</sup> U. S. Rock Mechanics Symposium, San Francisco, CA.
		June 28 – July 1, 2015.
2013	Intl. Scientific Committee	11 <sup>th</sup> International Conference on Analysis of
		Discontinuous Deformation (ICADD-11), Fukuoka, Japan,
• • • • • • • • • • • • • • • • • • • •	~ ~	August 27 - 29, 2013.
2011 - 2019	Co-President	ISRM Commission on Discontinuous Deformation Analysis
2012 - 2015	Member	ISRM Commission on Preservation of Ancient Sites
2011	Intl. Scientific Committee	12 <sup>th</sup> Congress of the International Society for Rock
2010	T. J. J. J. B. J.	Mechanics (ISRM), Beijing, China, October 2011.
2010	Intl. Advisory Board	6 <sup>th</sup> Asian Rock Mechanics Symposium, New Delhi, India,
		October 2010.

2009	International Advisory Committee	9 <sup>th</sup> International Conference on Analysis of Discontinuous Deformation (ICADD-9), Singapore,
	Committee	November 25 - 27, 2009.
2009	International Advisory	3 <sup>rd</sup> US-Canada Rock Mechanics Symposium, Toronto,
	Committee	Canada, May $9 - 14$ , 2009.
2009	Chair	Batsheva Seminar on Shear Physics at the Meso-Scale in
		Earthquake and Landslide Mechanics. Ein-Gedi, Israel.
		January 26 – 30, 2009. Sponsored by Israel Academy of
		Sciences and Humanities.
2008	Intl. Scientific Committee	International Symposium on Conservation of Ancient Sites,
		Dunhuang, China, October 8-12, 2008.
2008	Session Developer	42 <sup>nd</sup> U.S. Rock Mechanics Symposium and 2 <sup>nd</sup> U.SCanada
		Rock Mechanics Symposium, San Francisco, CA. June 29 -
• • • •		July 2, 2008.
2008	Paper Review Committee	6 <sup>th</sup> International Conference on Case histories in
		Geotechnical Engineering. Arlington, VA. August 11-16,
2007	Lud Adada - Dand	2008.
2007	Intl. Advisory Board	1 <sup>st</sup> Sri Lankan Geotechnical Society International Conference on Soil and Rock Engineering, Colombo, Sri
		Lanka, August 7-11, 2007.
2007	Intl. Scientific Committee	11 <sup>th</sup> Congress of the International Society for Rock
2007	mii. Scientific Committee	Mechanics (ISRM): International Workshop on Preservation
		of Natural Stone Monuments and Rock Weathering, Madrid,
		Spain, July 12 – 15, 2007.
2006	Intl. Advisory Board	4 <sup>th</sup> Asian Rock Mechanics Symposium (ARMS 2006),
		Singapore, November 8 – 10, 2006
2005	Intl. Organizing Committee	7 <sup>th</sup> International Conference on Analysis of
		Discontinuous Deformation (ICADD-7), Honolulu, Hawaii,
		December 10-12, 2005.
2005	Intl. Scientific Committee	International Symposium on Advances in Mining
		Technology and Management, Indian Institute of
		Technology, Kharagpur, India.
2004	Intl. Advisory Committee	3 <sup>rd</sup> Asian Rock Mechanics Symposium (ARMS2004)
2004		Kyoto, Japan, Nov. 30 – Dec. 2, 2004.
2004	Intl. Scientific Committee	6 <sup>th</sup> International Symposium on the Conservation of
2002	Lutt Advisor Donal	Monuments in the Mediterranean Basin. Lisbon, Portugal.
2003	Intl. Advisory Panel	6 <sup>th</sup> International Conference on Analysis of Discontinuous
		Deformation (ICADD-6), Trondheim, Norway, October 5 – 8, 2003.
2002	Chair	5 <sup>th</sup> International Conference on Analysis of Discontinuous
2002	Chan	Deformation (ICADD-5), Wuhan, China, October 6 – 10,
		2002.
2000-6	Member	International Society for Rock Mechanics (ISRM)
		Commission on Preservation of Natural Stone Monuments.
1999	Int. Advisory Committee	3 <sup>rd</sup> International Conference on Analysis of Discontinuous
	•	Deformation (ICADD-3), Vail, Colorado, June 3-4, 1999.
1996	Int. Technical Committee	1 <sup>st</sup> International Forum on Discontinuous
		Deformation Analysis, Berkeley, California, June 12-14,
		1996.

National Committee	es and Roles	
2019	Evaluator and jury member	The French Ministry for Europe and Foreign Affairs awards Chateaubriand fellowships
2019	Professional sub-committee	Israel Science Foundation (ISF) and the National Natural Science Foundation of China (NSFC) joint competitive
2012	Professional committee	grant program.  Israel Prize in Earth and Atmospheric Sciences
2011 - 2015	Professional sub-committee	National Higher Education Committee (MALAG):
		Evaluation of B.A. program in Conservation Studies, West Galilee College.
2011	Professional committee	Prof. Rahamimoff Travel Grants Program, US- Israel Binational Science Foundation.
2007 - 2010	Professional sub-committee	The Standards Institution of Israel (SII): SI-1665 Part 2 - Anchorages for soil and rock.
2005 - 2007	Professional sub-committee	The Standards Institution of Israel (SII): SI-5620 - Geological Mapping for Underground Openings.
2005 - 2006	Professional sub-committee	Israel Science Foundation (ISF): Earth and Environmental Sciences.
2005- 2009	Professional sub-committee	National Higher Education Committee (MALAG): Evaluation of proposed B.Sc. program in restoration and planning of historical sites – West Galilee College.
2004 - 2005	President	Israel Geological Society (IGS)
2002 - 2003	Professional sub-committee	National Higher Education Committee (MALAG):
		Evaluation of suggested B.Sc. program in civil engineering - Ariel College.
2001 - 2014	Founding President	Israel Rock Mechanics Association (IRMA), an ISRM National Group.
1999 - 2000	Professional sub-committee	Israel Science Foundation (ISF): Earth and Environmental Sciences.
1996 - 1997	Coordinator of activities	Israel Geological Society (IGS).
(c) Significant Prof	essional Consulting	
2017	Israel Land Authority	Engineering geology consulting on slope stability issues near lake Kineret (Sea of Galilee).
2015 - 2017	Jordan river rehabilitation Administration	Engineering geology consulting for slope stability problems along the Jordan river
2011-2017	PSP Investments Ltd.	Geological engineering consulting for the pumped storage plants in Gilboa and Manara, Israel.
2010-2012	Israel Authority of Antiquities	Reinforcement design for the open rock slope at the Open Kardo, Old City of Jerusalem.
2010-2012	Israel Energy Industries (IEI)	Assessing expected surface settlement due to deep in-situ production of oil shale using the numerical manifold method.
2009 - 1010	Israel Authority of Antiquities	Reinforcement design for the rock slope foundations of the historic walls at Damascus Gate, Old City of Jerusalem.
2008 - 2009	Israel Nature and Parks Authority	Reinforcement design for the rock slopes of the hanging bridge at Banias National Park.
2005 - 2009	Israel Cement Enterprises Ltd.	Stability of open pit mine slopes excavated above large span karstic caverns.

2003 - 2004	National Quarries Rehabilitation Fund	Stability of Zedekiah cavern below the old city of Jerusalem.
2002 - 2005	Israel Ministry of Defense	Blast induced liquefaction potential in loess.
1997 - 2000	Israel Nature and Parks Authority	Dynamic rock slope stability at Masada World Heritage site.
1996 - 1998	Israel Nature and Parks Authority	Stability of the bell-shaped caverns at Bet Guvrin.
1995	Rotem Amfart Fertilizers Ltd.	Rock slope stability at Arad open pit mine.
1992	L. A. County Dept. of Public Works	Evaluation of dam abutments stability under high cleft water pressures, <i>Pacoima dam</i> , California. (With R. E. Goodman).
1991	Kiewit Pacific Co.	Evaluation of rock slope stability, open cut excavation, Mojave siphon power plant, California. (With R. E. Goodman).
1991	United States Bureau of Reclamation	Dam abutments stability during over topping, <i>Seminoe dam</i> , Wyoming (With R. E. Goodman).
1990	Emcon Associates	Rock slope stability under water pressures and earthquake loading, <i>Ox mountain sanitary landfill</i> , California (With R. E. Goodman).

## (d) Editor or member of editorial board of a scientific or professional journal

2020 – Present	Associate Editor	Rock Mechanics and Rock Engineering
2009 - 2019	Editorial Board Member	Rock Mechanics and Rock Engineering
2005 – Present	Editorial Board Member	International Journal of Rock Mechanics and Mining
		Sciences
2000	Guest Editor	Israel Journal of Earth Sciences
		Special issue: Geological and Geotechnical Engineering in
		Israel, 2000

### (e) Membership in professional societies

(c) <u>ivieniocisinp in</u>	professional societies	
2019 - Present	Member	American Geophysical Union (AGU)
2001 - Present	Member	Israel Rock Mechanics Association (IRMA)
1993 – Present	Member	American Society of Civil Engineers (ASCE)
1993 – Present	Member	International Society of Rock Mechanics (ISRM)
1993 - 2003	Member	Association of Engineering Geologists (AEG)
1987 – Present	Member	Geological Society of Israel (IGS)

### (f) <u>Professional registration</u>

1993 – present Certified for engineering practice in Geological Engineering, State of Israel

## (g) Professional review work

### Scientific Journals

International Journal of Rock Mechanics and Mining Sciences; Rock Mechanics and Rock Engineering; International Journal for Numerical and Analytical Methods in Geomechanics; Computers and Geotechnics; Geotechnique; Tunneling and Underground Space Technology; Engineering Geology; Geological and Geotechnical Engineering; ASTM Geotechnical Testing Journal; Engineering and Environmental Geology, Israel Journal of Earth Sciences; Tectonophysics.

### Research Organizations

Israel Science Foundation (ISF); US – Israel Bi-national Science Foundation (BSF); German-Israel Foundation (GIF); National Ministry of Infrastructure.

## **Educational Activities**

# (a) Academic courses taught at BGU (Course Name/Level/Dept.)

Rock Slope Stability		Upper	Division/Graduate Geol. & Envir. Sci.	
Rock Mechanics		Upper	Structural Eng. Geol. & Envir. Sci.	
Rock Tunneling		Upper	Structural Eng. Geol. & Envir. Sci.	
Geomechanics in the fie	ld	Under	Structural Eng. Geol. & Envir. Sci. Structural Eng.	
(b) M. Sc. and Ph. D. thes	ses advisor			
Ehud Gavish	M. Sc.	1996	Evaluation of empirical classification methods (Q, RMR) for tunneling in bedded rock: lessons from the Giloh tunnels, Jerusale	m
Ron Benari	M. Sc.	1996	.(Jointly with Dr. Y. Arkin, Geological Survey of Israel) Stability of underground openings in jointed chalky rock: a case study from Tel Beer-Sheva national park	
Moshe Levine	M. Sc.	1996	Slope stability analysis and back calculation of plane failure in Aropen pit mine	ad
Alon Zur	M. Sc.	1997	Influence of grain size and texture on ultimate strength of dolomit	es
Eli P. Heyman	M. Sc.	1997	Mechanical behaviour of Mt. Sedom rock salt. Recipient of the 19	
•			Israel Mineral Science and Engineering Association award for outstanding MSc. thesis	
Michael Tsesarsky	M. Sc.	1999	Stability of underground openings in jointed chalks: a case study from the bell-shaped caverns, Bet-Guvrin national park. Recipienthe 2000 Geological Society of Israel award for outstanding M thesis	
Boaz Saltzman	M. Sc.	2001	Possible correlation between mechanical layer's joint spacing and rock mechanical properties. (Jointly with Prof. Y. Eyal, BGU)	its
Michael Tsesarsky	Ph. D.	2004	Stability of underground openings in stratified and jointed rock	
Ilia Wainshtein	M. Sc.	2004	Liquefaction potential of the Southern coastal plain, Israel	
Carola Eimermacher	M. Sc.	2005	Stability of high span openings in discontinuous rock: case history Zedekiah's cave, Jerusalem	<i>I</i> —
Dikla Hadad	M. Sc.	2005	Comparison between lattice-preferred orientation of calcite (LPO) and mechanical anisotropy in chalks. (Jointly with Prof. H. Kish, BGU)	1
Shlomi Manor	M. Sc.	2005	The influence of grain contact geometry on the mechanical behavior of sedimentary rocks. (Jointly with Dr. V. Palchik, BGU)	ior
Itai Orian	M. Sc.	2006	Mechanical properties of loess soils from the southern coastal plai Israel	n,
Ronnie Kamai	M. Sc.	2006	Estimation of historical seismic ground-motions of structural failu in archeological sites. (Jointly with Dr. S. Marco, Tel Aviv University). Recipient of the 2005 Geological Society of Israel award for outstanding MSc. thesis. Recipient of the 2011 American Rock Mechanics Association (ARMA) Applied Rocl Mechanics Research Award (jointly with Y. Hatzor and G. Yagoda Brian)	
Gony Yagoda-Biran	M. Sc.	2008	Seismic hazard estimation along eastern margins of sea of Galilee back analysis of seismically induced natural and structural failures	

			(Jointly with Drs. R. Amit and O. Katz, Geological Survey of Israel).  Recipient of the 2008 Geological Society of Israel award for
			outstanding MSc. thesis
Dagan Bakun-Mazor	M. Sc.	2008	Modeling mechanical layering in discontinuous rock masses for deformation analysis. Recipient of the 2008 Asaf Gur Memorial
Gabriele Monacis	M. Sc.	2008	award for outstanding MSc. thesis  Discrete element modeling of jointed beams (Jointly with Professor  Ciayanni Barla, Politagnias di Tanina). Thesis submitted to Dont of
			Giovanni Barla, Politecnico di Torino). Thesis submitted to Dept. of Structural and Geotechnical Engineering, Politecnico di Torino.
Ilia Wainshtein	Ph. D.	2009	A model for bearing capacity of pile/rock interfaces based on direct shear tests, in situ load tests, and numerical analyses.
Omer Biran	M. Sc.	2011	Rate and State friction experiments in direct shear. (Jointly with Dr. Alon Ziv, BGU, now at TAU)
Dagan Bakun-Mazor	Ph. D.	2011	Environmentally controlled, multi scale, dynamic behavior of rock masses. (Jointly with Prof. Steven Glaser, U. C. Berkeley)
Elchannan Livne	M. Sc.	2012	Evaluation of the liquefaction potential along the Dead-Sea western shores – Regional screening and geotechnical analysis of two
Yuval Tal	M. Sc.	2012	boreholes (Jointly with Dr. Amos Salomon, GSI).  Modeling the excavation sequence with the numerical Manifold Method (NMM)
Yael Rosenthal	M. Sc.	2013	Deducing seismic risk from structural failures in masonry arches below the old city of Jerusalem
Ksenia Bisnovat	M. Sc.	2013	Mechanical and petrophysical behavior of oil shale formations from the Judean Plains, Israel (Jointly with Prof. Shimon Feinstein, BGU)
Guy Davidesko	M. Sc.	2013	Evolution of surface roughness through shear (jointly with Dr. Amir Sagy, Geological Survey of Israel).
Gony Yagoda-Biran	Ph. D.	2013	Seismic Hazard Analysis using the Numerical DDA Method. Recipient of the 2013 Asaf Gur Memorial award for outstanding PhD thesis. Recipient of the 2011 American Rock Mechanics Association (ARMA) Applied Rock Mechanics Research Award (jointly with Y. Hatzor and R. Kamai)
Nir Badt	M. Sc.	2015	Role of normal stress constraints on roughness evolution through shear (jointly with Dr. Amir Sagy, Geological Survey of Israel)
Ravit Zelig	M. Sc.	2015	Numerical modeling of wave propagation through discontinuous media with implications to rock bursts.
Aviran Feldheim	M. Sc.	2016	Physical modeling of the wedging-ratcheting mechanics. (Jointly with Dr. Dagan Bakun-Mazor, Sami Shamoon College of Engineering).
Nahum Kazaz	M. Sc.	2018	Modeling rockbolt response to rockbursts with DDA.
Yuval Keissar	M. Sc.	2018	Numerical study of the thermally-induced wedging ratcheting mechanism with 3DEC. (Jointly with Dr. Dagan Bakun-Mazor, Sami
Omri Shitrit	Ph. D.	2019	Shamoon College of Engineering). Poroelasticity of organic rich chalks. (Jointly with Prof. Shimon Feinstein and Prof. Harold Vinegar, BGU). Recipient of the 2016 Asaf Gur Memorial award for outstanding PhD thesis.
Dekel Levi	M. Sc.	2019	Selected as author of one of the "best papers" by the 50 <sup>th</sup> US Rock Mechanics conference scientific committee - ARMA.  Creep potential of Clay soil in coastal plain of southern Israel.  (Jointly with Dr. Ronnie Kamai, Dept. of Structural Engineering, BGU)

Yair Gordin	Ph. D.	2021	Remote Detection of Thermal Maturation in Source-Rocks Using Seismic Anisotropy. (Jointly with Prof. Harold Vinegar, BGU and Dr. Anat Canning, Emerson – Paradigm Geophysical).
Tom Gabrieli	M. Sc.	2021	Architectural and Geometrical Properties of Faults: Case Studies in the Dead Sea Basin (Jointly with Dr. Amir Sagy, Geological Survey of Israel).
Aram Yaa'kobi	M. Sc.	2021	Optimization of underground opening dimensions for hazardous waste disposal. (Jointly with Dr. Shmulik Pinkert, Dept. of Structural Engineering, BGU).
Doron Morad	Ph. D.	2022	Influence of shear rate on roughness evolution in rock joints. (Jointly with Dr. Amir Sagy, Geological Survey of Israel).
Eli Heyman	Ph. D.	2023	Laboratory investigations of geological materials subjected to high impact loads (Tentative title) (Jointly with Prof. Oren Sadot, Dept. of Mechanical Engineering, BGU).

# (c) M. Sc. and Ph. D. committees (participation in qualifying exams and reviewing theses)

Amir Eidelman	Ph. D.	1994	Earth Science Institute, Hebrew University
Marsello Brafman	M. Sc.	1995	Dept. of Civil Engineering, Technion
Galit Cadan	M. Sc.	1996	Dept. of Geol. and Envirn. Sc., BGU
Yoav Zur	M. Sc.	1997	Dept. of Geol. and Envirn. Sc., BGU
Ram Weinberger	Ph. D.	1998	Earth Science Institute, Hebrew University
Joel Roskin	M. Sc.	1999	Dept. of Geol. and Envirn. Sc., BGU
Amir Sagi	Ph. D.	1999	Earth Science Institute, Hebrew University
Oded Katz	Ph. D.	2002	Earth Science Institute, Hebrew University
Itai Einav	Ph. D.	2002	Dept. of Civil Engineering, Technion
Ran Frank	M. Sc.	2003	Dept. of Geol. and Envirn. Sc., BGU
Dheeraj Kumar	Ph.D.	2003	Dept. of Mining Engineering, Indian Institute of Mining
•			Engineering, India
Menahem Weiss	Ph. D.	2003	Dept. of Geol. and Envirn. Sc., BGU
Maya Elimelech	M. Sc.	2004	Dept. of Geol. and Envirn. Sc., BGU
Relli Wald	M. Sc.	2004	Dept. of Geol. and Envirn. Sc., BGU
Carmi Zion	M. Sc.	2004	Dept. of Geophysics, Tel Aviv University
Sharbel Shehada	M. Sc.	2005	Faculty of Civil Engineering, Technion
Limor Levy	M. Sc.	2005	Dept. of Mechanical Eng., BGU
Ran Frank	Ph. D.	2006	Dept. of Geol. and Envirn. Sc., BGU
Arilon Meir	Ph. D.	2006	Faculty of Civil Engineering, Technion
Tamir Kamai	M. Sc.	2006	Dept. of Geol. and Envirn. Sc., BGU
T. Meyrova	Ph. D.	2007	Dept. of Geophysics, Tel Aviv University
Ran Nof - Nowitsky	Ph. D.	2008	Dept. of Geol. and Envirn. Sc., BGU
Ran Frank	Ph. D.	2009	Dept. of Geol. and Envirn. Sc., BGU
Huirong Bao	Ph. D.	2010	School of Civil and Envirn. Eng. Nanyang Technological University,
			Singapore
Alon Bril	Ph. D.	2014	Dept. of Mechanical Eng., BGU
Asaf Inbal	Ph. D.	2010	Dept. of Geol. and Envirn. Sc., BGU
Xinmei An	Ph. D.	2010	School of Civil and Envirn. Eng. Nanyang Technological University, Singapore
Arilon Maher	Ph. D.	2013	Faculty of Civil Engineering, Technion.
Eli Mahleb	M. Sc.	2011	Dept. of Geol. and Envirn. Sc., BGU
Shahar Kadmiel	Ph. D	2011	
Noam Yossef Hai	rii. D	2011	Dept. of Geol. and Envirn. Sc., BGU

Amir Wannon M. Sc. 2013 Dept. of Geol. and Envirn. Sc., BGU	
Amir Wannon M. Sc. 2013 Dept. of Geol. and Envirn. Sc., BGU Moria Hazan M. Sc. 2013 Dept. of Geol. and Envirn. Sc., BGU	
Alon Brill Ph. D. 2013 Dept. of Mechanical Engineering, BGU	
Xiaolei Qu Ph. D. 2013 School of Civil and Resource Engineering, The University o	f
Western Australia.	
Huimei Chen Ph. D. 2014 School of Civil and Envirn. Eng. Nanyang Technological Ur	niversity,
Singapore	• •
Guoyang Fu Ph. D. 2014 School of Civil, Environmental and Mining Engineering, Th	e
University of Western Australia.	
Rachel Avraham Katriel Ph.D. 2015 Faculty of Civil Engineering, Technion.	
Shalev Siman-Tov Ph. D. 2015 Institute of Earth Sciences, Hebrew University of Jerusalem	
Tal Feinstein M. Sc. 2016 Dept. of Structural Engineering, BGU	
Shahar Ben-Zeev M. Sc. 2016 Institute of Earth Sciences, Hebrew University of Jerusalem	
Noam Loyd M. Sc. 2017 Faculty of Civil Engineering, Technion.	
Gilboa Pe'er M. Sc. 2017 Dept. of Geol. and Envirn. Sc., BGU	
Xiao-Ying Liu Ph. D. 2017 School of Civil and Envirn. Eng. Nanyang Technological Ur	niversity,
Singapore	
Hannan Alexander M. Sc. 2018 Faculty of Civil Engineering, Technion.	
Matan Avital M. Sc. 2018 Dept. of Geol. and Envirn. Sc., BGU.	
Noam Ganz M. Sc. 2019 Dept. of Geol. and Envirn. Sc., BGU.	
Yuval Larom M. Sc. 2019 Faculty of Civil Engineering, Technion.	
Etna Shoham M. Sc. 2019 Faculty of Civil Engineering, Technion.	
Amichai Mitelman Ph. D. 2020 Dept. of Mining Engineering, The University of British Colu	ımbia,
Canada.	

# (d) Visiting international students, post docs, and scholars at lab

Hugo Gonzales	B. Sc.	2003	Chile
Gabriele Monacis	M. Sc.	2008	Politecnico di Torino, Italy
Emannuel Cohen	B. Sc.	2009	CERMES - Institut Navier. Ecole Nationale des Ponts et
			Chaussées, France
Dr. Huirong Bao	Post Doc	2011-12	Nanyang Technological University (NTU), Singapore
Dr. Benguo He	Post Doc	2014-17	Southwest Jiaotong University, Chengdu, Sichuan Province,
-			China. Recipient of PBC Program for Fellowships for Outstanding
			Post-doctoral Researchers from China and India
Dr. Juan Pablo Ibanez	Sabbatical	2017	Universidad Nacional de Cuyo, Mendoza, Argentina.

# Awards, Citations, Honors, Fellowships

# (a) Honors and Awards

2019	International Association of Advanced Materials Award Lecture (Declined)
2016	BGU Rector Award for Excellence in Teaching
2011	BGU Dean of Natural Sciences Award for Excellence in Research
2011	BGU Rector Award for Excellence in Teaching
2011	2011 American Rock Mechanics Association (ARMA) Applied Rock Mechanics Research Award

2010	BGU Dean of Natural Sciences Award for Excellence in Teaching
2007	Elected for incumbent of the Dr. Sam and Edna Lemkin Chair in Rock Mechanics by BGU Senate
2006	BGU Dean of Natural Sciences Award for Excellence in Teaching
2003	Shamshar Prakash Foundation Award (USA) for excellence in the practice of and significant contribution to Geotechnical Engineering
2000	Israel Mineral Science and Engineering Association award for establishing a state of the art rock mechanics laboratory at BGU and for innovative research in geological engineering
1989	Association of Engineering Geologists - San Francisco Section, Student Speaker on behalf of U.C. Berkeley Geotechnical Engineering Group, CA. USA

## (b) Fellowships and special grants

2012 - 2017	Visiting Professorship awarded to leading international scientists by the <i>Chinese Academy</i>
	of Sciences.
2009	Israel Academy of Sciences, European Office of Aerospace Research and Development, and
	U.S. Air Force Research Laboratory grants in support of the Batsheva de Rothschild
	seminar on "Shear physics and the mesoscale in landslide and earthquake mechanics".
1996	Maria Zoltan Toman Fund for academic excellence, BGU
1991	Jane Lewis competitive fellowship, U. C. Berkeley, USA
1991	The Geological Engineering Foundation Grant, Berkeley, USA
1990	Mineral Institute competitive fellowship, U. C. Berkeley, USA
1989	Jane Lewis competitive fellowship, U. C. Berkeley, USA
1988	Hebrew U U. of California competitive reciprocity scholarship

### **Scientific Publications**

### (a) Books

- 1. Yossef H. Hatzor (Editor), 2002. *Stability of Rock Structures*. Proceedings of the 5<sup>th</sup> International Conference on Analysis of Discontinuous Deformation. Balkema Publishers , Lisse, The Netherlands, 239p.
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- 41. Hatzor, Y. H., Tal, Y., Yagoda-Biran, G. and X. T. Feng, 2015. The significance of modeling the excavation sequence in numerical analysis of underground opening. In: Innovations in applied and theoretical rock mechanics. *Proceedings of the 13<sup>th</sup> ISRM Congress.* May 10 13, Montreal, Canada.
- 42. Shitrit, O., Y. O. Rosenberg, Y. H. Hatzor, I. Reznik, S. Nguyen, S. Feinstein, and H. J. Vinegar, 2015. Constitutive model for mechanical properties of highly porous organic-rich chalks from central Israel. In: Innovations in applied and theoretical rock mechanics. *Proceedings of the 13th ISRM Congress*. May 10 13, Montreal, Canada.
- 43. Zelig, Ravit, Yossef H. Hatzor, and Xia-Ting Feng, 2015. Rock burst simulations with 2D-DDA. In: *Proceedings of the 49th U.S. Rock Mechanics Symposium*. June 28 July 1 2015. San Francisco.
- 44. He, B. G., Y. H. Hatzor, and X. T. Feng, 2015. Rock bursts simulation with DDA: preliminary results. *Proceedings of the 12<sup>th</sup> International Conference on Analysis of Discontinuous Deformation*. (eds. C. A. Tang and Y. Y. Young). 16 19 October, Wuhan, China, pp. 15-23.
- 45. Hatzor, Y. H. 2015. Lessons from old underground openings in rocks: The wisdom of ancient engineers. *Proceedings the International Symposium on Scientific Problems and Long-term Preservation of Large-scale*. Longyou County, Zhejiang Province, China, 23–26 October, 2015. In: Z. Yang and C. Tanimoto (Eds.) *Ancient Underground Engineering of Ancient Underground Opening and Preservation*. Taylor & Francis Group, London, ISBN 978-1-138-02899-9, pp. 323 326.
- 46. He, Ben-Guo, Yossef H. Hatzor, and Xia-Ting Feng, 2016. Energy considerations of strain rock bursts in jointed rock masses. In: *Proceedings of the 1<sup>st</sup> International Symposium on Reducing Risks in Site Investigation, Modelling and Construction for Rock Engineering (GEOSAFE2016)*. Xi'an, China 25-27 May, 2016.
- 47. Shitrit O., Hatzor Y.H., Feinstein S., Vinegar H.J., 2016. Influence of Laboratory-Induced Maturation on Rock-Physics of Organic-Rich Chalks In: *Proceedings of the 50th U.S. Rock Mechanics Symposium*, June 26 29, Huston, Texas. **Selected as one of the "best papers" by the conference scientific committee**.
- 48. Gordin Y., Hatzor Y.H. and Vinegar H.J., 2016. Ultrasonic velocity and anisotropy of organic-rich chalks. In: *Proceedings of the 50th U.S. Rock Mechanics Symposium*, June 26 29, Huston, Texas.
- 49. Hatzor, Yossef H. 2016. Seismic vulnerability of historic monuments: a rock mechanics perspective. In: *Rock Mechanics and Rock Engineering: From the Past to the Future Ulusay et al., (Eds.).* Proceedings of EUROCK 2016. Taylor and Francis Group, London, pp. 75 84.

50. Yagoda-Biran, Gony, and Yossef H. Hatzor, 2017. The numerical discontinuous deformation analysis (DDA) method: benchmark tests. In: *Rock Mechanics and Engineering Volume 3: Analysis, Modeling & Design.* (ed. X-T Feng), CRC Press.

- 51. He, Ben-Guo, Yossef H. Hatzor, and Xia-Ting Feng, 2017. Ch. 4.5: DDA. In: *Rockburst: Mechanisms, Monitoring, Warning, and Mitigation*. (ed. X-T Feng), Elsevier.
- 52. He, Ben-Guo, Yossef H. Hatzor, and Xia-Ting Feng, 2017. DDA for scaling rockburst hazard in blocky rock masses. In: *Proceedings of the 13<sup>th</sup> International Conference on Analysis of Discontinuous Deformation*, Tianjin, China, 8-10 December.
- 53. Ibañez, J. P. & Hatzor, Y. H., 2018. Friction degradation in rapid sliding: Back analysis of the catastrophic Vajont landslide using DDA. In: *Proceedings of the 52<sup>nd</sup> U.S. Rock Mechanics Symposium*, Seattle, USA, 18–684.
- 54. Ibanez, Juan Pablo and Yossef H. Hatzor, 2019. From creep to rapid sliding: back analysis of the Vajont landslide with the numerical DDA method. In: *Proceedings of the 14<sup>th</sup> Congress of the International Society for Rock Mechanics*. September 13 18, 2019. Foz do Iguassu, Brazil.

### (d) Special Publications

1. Hatzor Y., 2000. Geological Map of Israel, 1:50,000, Sheet 6-I,II: Bet She'an. State of Israel, Ministry of National Infrastructure, The Geological Survey of Israel.

Lectures and Presentations at Meetings and Seminars

### (a) Invited lectures

- 1. Natural rock slope stability issues at Masada national monument. 9<sup>th</sup> ISRM Congress. Paris, France, 1999. Plenary Lecture.
- 2. Preservation of historic rock and stone monuments in Israel. Workshop of ISRM commission on preservation of historical monuments, 2<sup>nd</sup> Asian Rock Mechanics Symposium, ISRM, Beijing, China, 2001. Special Lecture.
- 3. Stability of monuments in rock. The Earth Sciences Day Sponsored by Israel Geological Society, Tel Aviv, Israel, 2001. Plenary Lecture.
- 4. Realistic Dynamic Analysis of Jointed Rock Slopes using DDA. 5<sup>th</sup> International Conference on Analysis of Discontinuous Deformation. Wuhan, China, 2002. Plenary Lecture.
- 5. Fully dynamic stability analysis of jointed rock slopes. International Conference on probability and mathematics. Co-sponsored by Hebrew U. and BGU. Beer Sheva, Israel, 2003. Plenary Lecture.
- 6. Stability of historical monuments in rock. Special conference on preservation of historical sites and cites. Western Galilee College, Akko, Israel, 2004. Plenary Lecture.
- 7. Mechanical behavior of sedimentary rocks in Israel keynote address. Israel Geological Society Annual Meeting, Mashabim. 2005. Plenary Lecture.
- 8. Dynamic back analysis of structural failures in archeological sites to obtain paleo-seismic parameters using DDA. 7<sup>th</sup> International Conference on the Analysis if Discontinuous Deformation. Honolulu, Hawaii, Dec. 10-12, 2005. Plenary Lecture.

9. Structural stability of historic underground openings in rocks: two case studies from Israel. Professional symposium on Fracture and Failure of Natural Building Stones, 16<sup>th</sup> European Conference on Fracture, Alexandropolis, Hellas, July, 3-4, 2006. Plenary Lecture.

- 10. Validation and application of discontinuous deformation analysis. 1<sup>st</sup> Sri Lankan Geotechnical Society International Conference on Soil and Rock Engineering ,Colombo, Sri Lanka, August 7-11, 2007. Special Lecture.
- 11. Seismic risk estimates from back analysis of structural failures and landslides in Israel. Special conference on new developments in seismic engineering design. Organized by the Association for Structural Engineering and Infrastructure in Israel. Tel Aviv, Israel, March 12, 2008. Plenary Lecture.
- 12. DDA analysis of structural failures in masonry monuments and natural rock slopes: a new method to estimate historic ground motions. MIR Workshop on Rock Mechanics and Geotechnical Engineering. Politecnico di Torino, Italy. Dec. 2-3, 2008. Plenary Lecture.
- 13. Constraining paleoseismic PGA using numerical analysis of structural failures in historic masonry structures. INQUA International Work Shop. Zefat, Israel, Feb. 16, 2009. Plenary Lecture.
- 14. Constraining paleoseismic PGA using numerical analysis of structural failures in historic masonry structures. ISRM Workshop on Rock Dynamics. EPFL, Lausanne, June 17-18, 2009. Plenary Lecture.
- 15. Preservation of Rock and Stone Monuments in Seismic Zones. Second UNESCO World Heritage workshop on "Disaster Risk Reduction to Cultural Heritage". November 14 17, 2009. Acre, Israel. Plenary Lecture.
- 16. Stability of shallow caverns below cities and mines in blocky rock masses: limiting relationship between cavern span and minimum cover height required for stability. Workshop on Underground Technology and Rock Engineering (UTRE) research, Nanyang Technological University, Singapore, November 23 24, 2009. Plenary Lecture.
- 17. Stability of Shallow Karstic Caverns Below Open Pit Mines: Limiting Relationships Between Cavern Span and Cover Thickness. 9<sup>th</sup> International Conference on Analysis of Discontinuous Deformation (ICADD-9), Singapore, November 25 27, 2009. Keynote address.
- 18. Modeling Dynamic Deformation in Natural Rock Slopes and Underground Openings with DDA. 40<sup>th</sup> Japanese Society of Discontinuous Analysis Meeting. Kyoto University Tokyo Office, Oct. 20, 2010, Tokyo, Japan. Plenary Lecture.
- 19. Modeling Dynamic Deformation in Natural Rock Slopes and Underground Openings with DDA. 6<sup>th</sup> Asian Rock Mechanics Symposium, New Delhi, India, October 24 27, 2010. Keynote address.
- 20. Risk assessment of collapse in shallow caverns using numerical modeling of block interactions with DDA: Suggested approach and case studies. International Top-level Forum on Engineering Science and Technology Development Strategy — Safe Construction and Risk Management of Major Underground Engineering. May 17 – 19, 2012. Wuhan, China. Keynote address.
- 21. Conservation of Cultural Heritage Monuments in Rock Sites: Case Studies from Israel. The Conservation Institute of Dunhuang Academy of China. April 26, 2013. Special Invited Lecture.

22. Site response analysis with 2D-DDA. 11<sup>th</sup> International Conference on Analysis of Discontinuous Deformation (ICADD-11), August 27-29, 2013, Fukuoka, Japan. Keynote address.

- 23. Quantitative assessment of archeo-earthquakes from back analysis of historic masonry structures. Pre-instrumental earthquakes: Italy Israel Binational Symposium. 16 September, 2013. Ma'agan Eden, Lake Kinneret (Sea of Galilee), Israel. Plenary Lecture.
- 24. Seismic vs. thermal triggering of large landslides. Vajont 2013 Conference. Padua, Italy Oct. 8 10, 2013. Keynote Address.
- 25. Discontinuous Deformation Analysis in Rock Mechanics Practice. 13<sup>th</sup> ISRM Congress. Montreal, Canada May 10 13, 2015. Keynote address.
- 26. Modeling Very Deep Underground Excavations Inspired by Dick Goodman's Philosophy (DDA/NMM). Richard E. Goodman Geological Engineering Symposium. Jenner, California USA, July 2, 2015. Plenary lecture.
- 27. Modeling rock bursts in discontinuous rock masses with DDA. The 12<sup>th</sup> International Conference on Analysis of Discontinuous Deformation (ICADD-12). Wuhan, China, October 16 to 19, 2015. Keynote address.
- 28. Seismic effects on historic monuments: some examples from Israel. The International Symposium on Scientific Problems and Long-term Preservation of Large-scale Ancient Underground Engineering. Zhejiang Province, China, October 23-26, 2015. Keynote address.
- 29. Seismic vulnerability of historic monuments: a rock mechanics perspective The 2016 ISRM International Symposium (EUROCK2016), Cappadocia (Ürgüp), Turkey, 29 31 August, 2016. Keynote address.
- 30. Rockburst simulations with DDA. 15<sup>th</sup> International Conference of the International Association for Computer Methods and Advances in Geomechanics (15<sup>th</sup> IACMAG), October 19-23, 2017, Wuhan, China. Keynote address.
- 31. Roughness evolution through shear in rock interfaces: lab results and lessons from the catastrophic Vajont landslide. 27<sup>th</sup> Assembly of the Advanced Materials Congress. 11 14 August, 2019. Stockholm, Sweden. IAAM Award Lecture (Declined).
- 32. Geological engineering of underground openings for hazardous waste disposal. NNSA-IAEC workshop on nuclear waste management and subsurface science. 11-12 November 2019, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Sede Boqer Campus, Israel. Invited Talk.

### (b) Invited seminars at universities and institutions

- 1. Short course on Block Theory. TerraTek Research. Salt Lake City, Utah, 1992.
- 2. Alternative methods for tunnel design in jointed rock masses. Geological Survey of Israel, Jerusalem, 1992.
- 3. New developments in tunneling through discontinuous rock, Dept. of Geology and Mineralogy, BGU, 1992.
- 4. Relationship between grain size and mechanical strength of Dolomites. Geological Survey of Israel, Jerusalem, 1994.
- 5. Application of Block Theory to engineering of underground space in jointed rock. Dept. of Geotechnical Engineering Faculty of Civil Engineering, The Technion, 1994.
- 6. Three Dimensional stability of rock blocks in saturated slopes. Earth Science Institute, Hebrew University of Jerusalem, 1995.
- 7. Stability issues in bedded and jointed chalk Case studies from the Northern Negev. Department f Geology and Mineralogy, BGU, 1995.

8. Back analysis of three large rock failures around the world. Special seminar in Geotechnical Engineering, Department of Civil Engineering, University of California, Berkeley, 1995.

- 9. Stability of underground openings in bedded and jointed chalks: case studies from Tel Beer-Sheva and Beit Gubrin. Department of Physical Geography, The Hebrew University of Jerusalem, 1996.
- 10. Relationship between engineering geology and civil engineering. The Engineers Club, Beer-Sheva, 1996.
- 11. Application of basic and advanced rock mechanics principles to the solution of engineering problems. A special conference. Earth Science Institute Hebrew University, 1998.
- 12. Dilation of anisotropic rock salt TerraTek Research, USA, 1998.
- 13. The engineering of underground opening in soft chalks new solutions to old problems. Earth Science Institute Hebrew University, 1998.
- 14. Geological Engineering in Israel towards the year 2,000. A special conference on science and technology at Nevatim Air Force Base, 1998.
- 15. Rock slope stability analysis at Masada national park. Dept. of Geotechnical Eng. The Technion, 1998.
- 16. Rock slope stability analysis at Masada national park. Earth Science Institute Hebrew University, 1999.
- 17. Rock slope stability analysis at Masada national park. The Dean of the Natural Science Faculty Forum BGU, 1999.
- 18. Rock slope stability analysis at Masada national park. The Engineergs Club Beer Sheva, 2000.
- 19. Rock slope stability analysis at Masada national park. Dept. of Civil and Environmental Engineering, University of California, Berkeley, 2001.
- 20. Dynamic rock slope stability analysis. Geophysical Institute of Israel, Lod, 2001.
- 21. Rock Slope Stability at Masada. Geological Survey of Israel, Jerusalem, 2001.
- 22. Fully dynamic analysis of jointed rock slopes using DDA. Dept. of Environmental Sciences and Energy Research. The Weizmann Institute of Science, 2002.
- 23. Realistic dynamic analysis of jointed rock slopes. Dept. of Mechanical Engineering, BGU, 2004.
- 24. The effect of pre-consolidation on frictional strength of clay filled discontinuities Weizmann Institute of Sciences. Special Geodynamics workshop, 2004
- 25. Theory and application of discontinuous deformation analysis. Geological Survey of Israel, Jerusalem, 2005.
- 26. Mechanical behaviour of typical rock formations in Israel. Nuclear Research Center, Dimona, 2006
- 27. Theory and application of discontinuous deformation analysis. Hebrew University, Jerusalem, 2007.
- 28. The numerical discontinuous deformation analysis: theory, validation, and applications. Montana Tech of the University of Montana, Bute, Montana, 2008.
- 29. Dynamic analysis of rock slope stability. Tel Aviv University, Tel Aviv, 2010.
- 30. Preservation of underground openings: examples from Ayalon cave, Zedekyah cave, and Tel Beer Sheva. Ben-Gurion University, Beer-Sheva, 2010.
- 31. Seismic vulnerability of historic sites, Graduate School of Engineering, Kyoto University, Kyoto, Japan, 2010.
- 32. Modelling Dynamic Deformation in Natural Rock Slopes and Underground Openings with DDA. Institute of Rock and Soil Mechanics, Chinese Academy of Sciences, August 30, 2011, Wuhan, China.
- 33. Rock Mechanics and Rock Engineering Research by BGU: Few Examples. Institute for Disaster Management and Reconstruction, Sichuan University, September 5, 2011, Chengdu, China.
- 34. Modelling Rock Mass Deformation with DDA and NMM: Applications to Underground Openings. Institute of Tunnel and Metro Engineering, Hohai University, September 12, 2011, Nanjing, China.
- 35. Geotechnical Earthquake Engineering with the numerical DDA method. Yangtze River Scientific Research Institute, Wuhan, China, February 23, 2012.
- 36. Underground Engineering with DDA. State Key Laboratory for Geomechanics and Deep Underground Engineering, Beijing, China. March 15, 2012, Beijing, China.
- 37. DDA Seminar, Beijing University of Technology, Beijing, China, August 19 24, 2012. Jointly with Dr. Gen-hua Shi and Professor Guowei Ma.
- 38. Accuracy of Wave Propagation Modeling with 2D-DDA. 1st DDA Workshop. Seoul, South Korea, October 14, 2012
- 39. Engineering challenges in very shallow and very deep underground mining: the case of the very shallow Ayalon cave and the very deep Jinping tunnels. Geological Survey of Israel, January 13, 2013.

40. Conservation of Cultural Heritage Monuments in Rock Sites: Case Studies from Israel. School of Cultural Heritage, North West University, Xian, China. April 22, 2013.

- 41. Conservation of Cultural Heritage Monuments in Rock Sites: Case Studies from Israel. School of civil Engineering and Mechanics, Gansu, Lanzhou, China. April 28, 2013.
- 42. Geological Engineering Challenges in very shallow and very deep underground openings. Dept. of Geophysics and Planetary Sciences. Tel Aviv University. June 3, 2013.
- 43. Modeling dynamic deformation with DDA. Department of Civil Engineering, College of Resource and Civil Engineering, Northeastern University, Shenyang, China. August 20, 2013.
- 44. DDA Seminar, Beijing University of Technology, Beijing, China, August 21 25, 2013. Jointly with Dr. Gen-hua Shi and Professor Guowei Ma.
- 45. Modeling deformation of old masonry structures with the numerical DDA method: examples from historic monuments in Israel. Technical University of Athens (NTUA), School of applied mathematical and physical science, Dept. of Mechanics, Athens, Greece, February 10, 2015.
- 46. Rockbursts in discontinuous rock masses: theoretical analysis and field results from the Jinping hydroelectric project in China. Israel Geological Society Annual Meeting, Eilat, January 20, 2016 (invited talk).
- 47. Seismic vulnerability of monuments in Israel. Italian-Israeli cooperation on seismic hazard, geodynamics of the Mediterranean and geo-resources. Tel Aviv University, June 4, 2017 (invited talk).
- 48. Scaling rockburst hazard in deep tunnels using the numerical DDA and empirical GSI methods. Hebrew University of Jerusalem, November 15, 2017.
- 49. Introduction to Block Theory and Discontinuous Deformation Analysis (DDA). Rock Mechanics Short Course for Association of Environmental & Engineering Geologists San Francisco Bay Area Chapter. University of California, Berkeley. June 7, 2019.
- 50. Dynamic deformation in discontinuous rock masses: rockbursts in deep tunnels and rapid catastrophic rock slides. Geological Survey of Israel, June 30, 2019.

#### **Research Grants**

### (a) Competitive Grants

1993 - 1995	Ministry of National Infrastructure	The complete stress strain curve and failure criteria of Judea Group Dolomites.	Y. Hatzor Y. Mimran	\$33,000
1994 - 1997	Ministry of Science	Investigation of the mechanical behavior of Mount Sedom Rock Salt in order to evaluate the	Y. Hatzor V. Palchik	\$37,000
		feasibility of underground hazardous waste storage plants.		
1999 - 2003	US-Israel Bi-national	Stability of underground openings in jointed and	Y. Hatzor	\$150,000
	Science Foundation	laminated rock.	N. Sitar	
	(BSF)		Gen-hua Shi	
1999 - 2000	Ministry of National	Relationship between mechanical behavior and	Y. Hatzor	\$13,000
	Infrastructure	jointing patterns in rock	Y. Eyal	
2002 - 2003	Ministry of Defense	Stability of underground openings in saturated	Y. Hatzor	\$13,000
	·	sands.	H. Gvirzman	
2003 - 2005	Ministry of Defense	Potential for blast induced liquefaction in silty	Y. Hatzor	\$35,000
	•	sands	H. Gvirzman	
2004	Ministry of Housing	Shear resistance of pile – rock interfaces	Y. Hatzor	\$22,381
	and Construction	•		
2005 - 2009	US-Israel Bi-national	Environmentally controlled, multi scale, dynamic	Y. Hatzor	\$200,000
	Science Foundation (BSF)	behavior of rock masses	S. Glaser	,

2007	National Steering Committee for earthquake readiness	Seismic hazard assessment along the eastern margins of lake Kineret	Y. Hatzor R. Amit O. Katz	\$20,000
2007 - 2008	Ministry of National Infrastructure	Laboratory friction experiments with implications	Y. Hatzor A. Ziv	\$20,000
2008 - 2012	Infrastructure Israel Science Foundation (ISF)	for seismic risk analysis  Determination of Paleoseismic Ground Motions from Inversion of Block Failures in Masonry Structures	Y. Hatzor	\$200,000
2008 - 2010	Ministry of National Infrastructure	Liquefaction potential of sediments along the shores of the Dead Sea	Y. Hatzor A. Salamon	\$ 25,000
2013-2017	Israel Science Foundation (ISF)	Thermally-induced irreversible displacements in discontinuous rock slopes	D. Bakun- Mazor Y. H. Hatzor	\$ 200,000
2016-2017	Ministry of Defense	Geomechanical properties of soils	Y. Hatzor R. Kamai	\$ 100,000
2017-2021	Israel Science Foundation (ISF)	Roughness evolution through shear	Y. Hatzor A. Sagy	\$ 200,000
(b) Industry Gr	<u>rants</u>			
1994	Moriah - Authority for the development of Jerusalem	Mechanical behaviour of Beit-Meir dolomites and their adaptability for tunneling	Y. Hatzor	\$2,800
1995	Moriah - Authority for the development of Jerusalem	Mechanical behavior of Menuha chalks and their adaptability for tunneling	Y. Hatzor	\$6,500
1995	National Park Authority	Underground opening stability in highly jointed chalk - Tel Beer-Sheva	Y. Hatzor	\$13,000
1995	Rotem Fertilizers Ltd.	Rock slope stability analysis in Arad open pit mine	Y. Hatzor	\$12,000
1996	Moriah - Authority for the development of Jerusalem	Mechanical behaviour of Aminadav Fm. dolomites and their adaptability for tunneling	Y. Hatzor	\$13,000
1997	Ministry of Defense	Mechanical behavior of carbonates from the Galilee for underground storage plants	Y. Hatzor	\$10,000
1996 – 1997	National Park Authority	Stability of the bell-shaped caverns at Bet Guvrin	Y. Hatzor M. Talesnick	\$21,600
1997 - 1998	Oil and Energy Infrastructures Ltd.	Mechanical behaviour of Mt. Carmel lithologies for tunneling feasibility studies	Y. Hatzor	\$19,000
1997 - 2000	National Park Authority	Dynamic rock slope stability analysis and monitoring in Masada	Y. Hatzor	\$80,650
2002	Ministry of Housing and Construction	Mechanical strength of limestones for bridge footing design in Modeen.	Y. Hatzor	\$5,000
2002	Yefe Nof Inc.	Mechanical strength of dolomites for the Carmel tunnel project	Y. Hatzor	\$2,500
2003	National Quarries Rehabilitation Fund.	Stability analysis of the ancient Zidekiahu cavern, Jerusalem	Y. Hatzor	\$25,000
2004	Ministry of Defense	Mechanical behavior of basaltic rock specimens	Y. Hatzor	\$7,500
	•	-		
2004	Ministry of Housing and Construction	Stability and reinforcement analysis for the "Gibborim" overhang in Haifa	Y. Hatzor	\$8,100

2006 - 2008	Israel Cement Enterprises Ltd.	Numerical stability analysis of underground cavern roof thickness vs. roof span + conservation strategies for Ayalon cave	Y. Hatzor	\$50,000
2010 - 2014	Israel Energy	Mechanical and petrophysical behaviour of oil	Y. Hatzor	\$137,000
	Initiatives IEI	shale from the Judean Plains region, Israel.		
2015 - 2016	AFEK Oil and Gas	Mechanical and petrophysical behaviour of	Y. Hatzor	\$ 49,000
	Ltd.	carbon rich chalk from Ness boreholes, Golan.		
2019 - 2020	NNRC	Stability examination of underground openings in	Y. Hatzor	\$ 28,000
		the unsaturated soil sections of Mishor Yamin	S. Pinkert	