

CURRICULUM VITAE**1. PERSONAL DETAILS**

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Personal Webpage: [Hilla Sarig Bahat, Musculoskeletal Physiotherapist, Senior Lecturer](#)

2. HIGHER EDUCATION**a. Undergraduate and Graduate Studies**

Period of study	Name of Institution and Department	Degree
1993-1997	Tel- Aviv University, Department of Physical Therapy, Sackler Faculty of Medicine, Tel Aviv, Israel	Bachelor of Physical Therapy, Magna Cum Laude
1999-2000	University of South Australia, School of Physiotherapy, Division of Health Sciences, Adelaide, South Australia, Australia	Master of Physiotherapy
2005-2010	University of Haifa, Department of Physical Therapy, Faculty of Social Welfare and Health Sciences, Haifa, Israel	Doctor of Philosophy PhD

b. Post-Doctoral Studies

Period of Study	Name of Institution, Department/Lab	Name of Host
2012- 2013	University of Queensland The Cervical Spine and Whiplash Research Unit, Brisbane, Queensland, Australia.	Supervisor- Dr. Julia Treleaven Head of Lab- Prof. Gwen Jull

3. ACADEMIC RANKS AND TENURE IN INSTITUTIONS OF HIGHER EDUCATION

Years	Name of Institution & Department	Rank/Position
Sep. 1998 – Feb. 1999	Tel Aviv University Department of Physical Therapy	Teaching assistant
June 2000- Nov. 2000	University of South Australia School of Physiotherapy	Clinical tutor
Feb. 2001 – June 2001	Tel Aviv University Department of Physical Therapy	Teaching assistant
Oct 2001- Sep 2010	University of Haifa Department of Physical Therapy	Teacher- Instructor (50%)
Oct 2010	University of Haifa Department of Physical Therapy	Lecturer (50%)
1/9/2018 – 30/9/2020	University of Haifa Department of Physical Therapy	Senior Lecturer (50%) (Without tenure)
*1/10/2020 (Forthcoming)	University of Haifa Department of Physical Therapy	Senior Lecturer (100%) (Without tenure)

Note: * Represents activities and publications since promotion to senior lecturer

4. OFFICES IN ACADEMIC ADMINISTRATION

Date	Name of Institution & Department	Role
2004- 2009	Department of Occupational Therapy, University of Haifa.	Member of the virtual reality laboratory staff
2006- 2012, 2014- 2016	Department of Physical Therapy, University of Haifa.	Forth year undergraduate coordinator
2004- 2012	Department of Physical Therapy, University of Haifa.	Coordinator, Musculoskeletal Division
2010- 2012	Department of Physical Therapy, University of Haifa.	Master studies council member
Nov 2014- 2017	Faculty of Social Welfare and Health Sciences, University of Haifa.	Research council member

Date	Name of Institution & Department	Role
2018- present	Department of Physical Therapy, University of Haifa.	Master studies council member
2014- present	Department of Physical Therapy, University of Haifa.	Head of Orthopedic and Musculoskeletal Division

5. SCHOLARLY POSITIONS AND ACTIVITIES OUTSIDE THE UNIVERSITY

Years	Reviewing for Refereed Journal
2001- 2006	PEDro- Physiotherapy Evidence Database, Quality review of RCTs
2008- 2010	<i>Journal of Israeli Society of Physical Therapy</i>
2010- present	<i>Spine</i> , IF 2.499, R=10/61 (Q1) in Orthopedics
2011- present	<i>Biomed Central BMC Musculoskeletal Disorders</i> , IF 1.739, R=35/76 (Q2) in Orthopedics
2012- present	<i>European Spine Journal</i> , IF 2.563, R=12/67 (Q1) in Orthopedics
2013- present	<i>Musculoskeletal Science and Practice</i> (Former 'Manual Therapy') IF 1.725, R=6/24 (Q1) in Rehabilitation Invited member of the international board.
2016- present	<i>Virtual Reality</i> , IF 0.628, R=96/106 (Q4) in Computer Science
2017- present	<i>PLoS One</i> , IF 2.806, R=15/64 (Q1) in Multidisciplinary sciences
2017- present	<i>Scientific reports</i> , Nature publishing group, IF 4.259, R=10/64 (Q1) in Multidisciplinary sciences
*2019- present	<i>Journal of Electromyography and Kinesiology</i> , IF 1.753, R=28/65 (Q2) in Rehabilitation
*2020- present	<i>Sports Medicine</i> , IF 7.583, R= 2/83 (Q1) in Sports Sciences

Years	Memberships in Academic Professional Association
2001-2003	Representative of Israeli Physiotherapists , Israeli society of sports medicine
2004	Representative of Israeli Physiotherapists , Israeli work group for Low Back Pain guidelines
2000- Present	Member, Australian Physiotherapy Association (APA)
2000- Present	Member of Australian specialists' group, Musculoskeletal Physiotherapy Association (MPA)
2001- Present	Member, Israeli Society of Physical Therapy
*2020	Member, NASS North America Spine Society

Years	Clinical Positions
1997-1999	Physiotherapist, Maccabi Health services, Physiotherapy clinic, Kiryat Ono, Israel.
1999-2000	Physiotherapist, Roberts Physiotherapy, The Paragon, Modbury, South Australia (Private practice).
2000	Physiotherapist, Unley Physiotherapy Services, 160 Unley Rd, Unley, South Australia (Private practice).
2000	Physiotherapist , SPORTSMED SA, Physiotherapy division, 32 Payneham Rd, Stepney, South Australia (Private Sports Medicine Hospital).
2001-2002	Physiotherapist and professional consultant ,Lyn clinic, Clalit Health Services, Haifa
2001-present	Head Musculoskeletal physiotherapist, Castra Center, The Physiotherapy Clinic, 8 Flyman street, Haifa

Years	Professional License
1997-present	Licensed Physical Therapist, Ministry of Health, Israel
2000-2001	Temporary Licensed Physiotherapist, South Australia

6. ACTIVE PARTICIPATION IN SCHOLARLY CONFERENCES

a1. International Conferences – Held Abroad

The name of the presenter other than me is underlined.

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
Nov 21 st -24 th 2001	Twelfth Biennial Conference “More Than Skin Deep”, Musculoskeletal Physiotherapy Australia	Adelaide Convention Centre, Adelaide, South Australia.	Evidence for exercise therapy in Mechanical neck disorders.	Speaker
June 2 nd -6 th 2007	15 th International World Confederation for Physical Therapy	Vancouver, Canada	Cervical Range of Motion Assessment: Reliability Study and the Effect of a Single Virtual Experience. <u>With Yocheved Laufer</u> , Tamar Weiss	Oral presentation
June 10 th -13 th 2009	PT Baltimore 2009	Baltimore, USA	Cervical range of motion and velocity profile of patients with chronic neck pain compared to asymptomatic subjects assessed in a virtual environment <u>With Yocheved Laufer</u> , Tamar Weiss	Oral presentation
June 2 nd 2011	The Israel Conference	Los Angeles, USA	Interactive neck training for diagnostics and therapeutics With Tamar Weiss, Yocheved Laufer	Invited Speaker
June 20 th -23 rd 2011	WCPT- World Congress of Physical Therapy	Amsterdam, Netherland	Characteristics of cervical motion affected by neck pain, as assessed in a virtual environment. With Tamar Weiss, Yocheved Laufer	Speaker
Oct 15 th - 22 nd 2013	‘New Moves’ Australia Physiotherapy Association APA conference 2013	Melbourne convention centre, Melbourne, Australia	Kinematic training with and without virtual reality for chronic neck pain With Hiroshi Takasaki, Xiaoqi Chen , Yaheli Bet-Or, Julia Treleven	Speaker

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
May 1st-4th 2015	World Congress of Physical Therapy WCPT Congress 2015	Suntec Singapore Convention and Exhibition Centre, Singapore	Cervical kinematic training with and without an interactive virtual reality device for chronic neck pain- A pilot randomized clinical trial. With Hiroshi Takasaki, Xiaoqi Chen, Yaheli Bet-Or, <u>Julia Treleaven</u>	Oral presentation
Oct 3 rd -6 th 2015	Australia Physiotherapy Association APA Conference 2015	Gold Coast Convention and Exhibition Centre, Broadbeach QLD, Australia	Workshop: How to prescribe exercises for cervical kinematic impairment in neck pain. With <u>Julia Treleaven</u>	Invited workshop
July 4 th -6 th 2016	IFOMPT 2016 Conference	Glasgow, UK	a. Remote kinematic e-training for patients with chronic neck pain, a randomized controlled trial. With Julia Treleaven	Oral presentation
			b. Are functional complaints relating to neck motion related to altered cervical kinematics in those with neck pain? With Julia Treleaven	Oral presentation
May 9 th - 11 th 2018	Cervical Spine Research Society CSRS Europe	Lisbon, Portugal	Remote VR training for patients with chronic neck pain- an RCT With Kate Croft, Courtney Carter, Anna Hoddinott, Julia Treleaven	E-Poster presentation
*July 1 st -3 rd 2019	NSpine Main Conference	London, UK	Kinematic training for pilots with flight related neck pain- an RCT	Oral presentation
*Oct 4-6 th , 2020	IFOMT 2020	Melbourne, Australia	Focused symposium: Cervical kinematics - What we know and where to now? Convener: Julia Treleaven Speaker: Hilla Sarig Bahat	Oral presentation Postponed due to the COVID-19 crisis

a2. International Conferences – Held in Israel

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
July 12 th -15 th 2001	The 3rd Maccabiah-Wingate International Congress	Wingate institute	Chronic Achilles Tendinosis - Current view of histopathology and management.	Speaker
June 30 th – July 1 st , 2003	International Symposium of Sports Medicine	David Intercontinental Hotel, Tel-Aviv	Dynamic Stability	Speaker
June 29 th -July 2 nd 2009	Virtual Rehabilitation 2009 International Conference	University of Haifa, Haifa	Using Virtual Reality to Assess Neck Pain. With Tamar Weiss, Yocheved Laufer	Speaker
June 3 rd -6 th 2010	The 2010 Wingate Congress of Exercise and Sports Sciences	Wingate Institute	Neck Pain Assessed in a Virtual Environment. With Tamar Weiss, Yocheved Laufer	Speaker
March 20 th , 2011	Microsoft's Thinknext 2011	Tel Aviv Port, Tel Aviv	Physical Virtue: assessment and training of neck disorders in a virtual environment.	Speaker
March 13 th 2015	The “Shores” conference, The American-Israeli Aeromedicine meeting	Kfar Hamaccabia, Ramat Gan	Neck Pain in Fighter Pilots	Speaker Invited talk
*Oct 18 th 2018	The 2018 annual conference of the Israeli society of Sports medicine	Sami Ofer Stadium, Haifa	a. Validity and reliability of a customized smartphone application for postural sway assessment. With Dmitry German	Invited Speaker

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
			b. Self-training for Neck Pain in Fighter Pilots-an RCT. With Dmitry German, Hilla Mashiach-Gold, Galia Palomo, Yael Frankel Nir	Invited Speaker
*April 2020	Shoresh Aerospace Medicine conference. US-Israel	Kfar Hamacabia, Israel	Neck pain in jet fighter pilots as compared to civillians.	Oral presentation, was cancelled due to COVID-19 crisis
*June 4-7 th 2020	The 6th Congress of Exercise and Sport Sciences	the Academic College at Wingate institute	The Role of Forward Head Posture in Neck Pain: A cross-sectional study	Speaker Postponed due to COVID-19 crisis

A3. Local Conferences

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
May 21 st 2001	Israeli Society of Physical Therapy annual conference	Tel Aviv	Evidence for exercise therapy in Mechanical neck disorders.	Speaker
March 31 st , 2004	The Annual Conference of Family Physicians	Beer Sheva	Israeli guidelines for prevention of Low Back Pain. With Amnon Lahad	Invited Speaker
March 21 st - 23 rd , 2005	The Annual Conference of the IPTS	Dead Sea	Guidelines for prevention of Low Back Pain. With Amnon Lahad	Speaker
Nov 30 th - Dec 1 st , 2006	The 57 th Annual conference of the Israeli Association of Physical and Rehabilitation medicine	Avenue convention center, Airport City	Assessing neck ROM-reliability and relation to a virtual experience. With Tamar Weiss, Yocheved Laufer	Speaker

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
Aug 6 th 2008	The 6 th Annual Meital conference 2008: New directions in online-tuition in high education	University of Haifa, Haifa	Cervical function assessment in a virtual environment. With Tamar Weiss, Yocheved Laufer	Speaker
Dec. 3 rd -4 th 2008	The 59 th Annual conference of the Israeli Association of Physical and Rehabilitation medicine	Avenue convention center, Airport City	Assessment of cervical kinematics in a virtual environment. With Tamar Weiss, Yocheved Laufer	Speaker
May 25 th 2009	The Sixth Research Fair of The Faculty of Social Welfare and Health Sciences	University of Haifa, Haifa	Neck pain assessed in a virtual environment. With Tamar Weiss, Yocheved Laufer	Speaker
May 26 th 2010	Post- IPTS 10 th conference: Assessment and management of Low Back Pain	University of Haifa, Haifa	The Physiotherapist and the Physician- a symbiotic ecology.	Speaker Invited talk
May 17 th -18 th 2011	IPTS 11 th conference Israeli Physical Therapy society	Avenue convention center, Airport City	Peripheral nerve injuries in the shoulder region. With Hilla Eshkol Izrael	Speaker
May 16 th 2012	IPTS 12 th conference Israeli Physical Therapy society	Avenue convention center, Airport City	Evaluation of clinical methods of Peroneal muscle testing. With Andrei Krasovsky	Speaker
March 18 th 2014	Selected issues in musculoskeletal rehabilitation	University of Haifa	Evidence base for assessment and management of neck pain- past, present and future	Speaker

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
May 12 th -13 th 2014	IPTS 14 th conference Israeli Physical Therapy society	Avenue convention center, Airport City	Cervical kinematic training for chronic neck pain- a randomized clinical trial With Hiroshi Takasaki, Xiaoqi Chen , Yaheli Bet-Or, Julia Treleaven	Speaker
Nov 25 th -27 th 2014	Israel Pain Association, Annual conference	Royal Beach convention center, Eilat	Chronic neck pain- A pain in the neck?	Speaker Invited talk
June 4 th 2015	The Board of Governors	University of Haifa	Assessment and management of neck disorders using VR technology	Presenter in exhibition Invited talk
December 29 th 2015	Aviation medicine conference	Palmachim Air Force base	Neck Pain in Fighter Pilots With <u>Hilla Gold</u>	Chief investigator, Invited talk
November 23 rd 2016	Jerusalem Conference for Family Physicians	Crown Plaza Hotel	The systematic management of back pain in the community- Physiotherapist, Orthopedic and Family Doctors.	Speaker Invited talk
March 2 nd 2017	T2Med-3DS- Startup Healthcare	Technion, Haifa	Mentoring in brain storming for new biomedical ideas	Invited Mentor
May 9 th -10 th 2017	The 17th annual conference of the Israeli Physiotherapy Society	Avenue congress center, Airport city	Remote kinematic training for chronic neck pain - An RCT	Speaker

Date	Name of Conference	Place of Conference	Subject of Lecture/Discussion	Role
Dec 25 th 2017	RSTU 2017 The 67th annual conference of the Israeli association of physical and rehabilitation medicine	Avenue convention center, Airport city.	Remote kinematic training for patients with chronic neck pain- a randomized controlled trial. With Croft K, Carter C, Hoddinott A, Sprecher E, Treleaven J	Invited Speaker
Dec 12 th 2018	Science front meeting: The Faculty conference	Hecht Auditorium, University of Haifa	Remote e-training for neck pain, An RCT. With Croft K, Carter C, Hoddinott A, Sprecher E, Treleaven J	Poster presentation
Dec 19 th 2018	The 68 th annual conference of the Israeli association of physical medicine and rehabilitation	Avenue convention center, Airport city.	Validity and reliability of a customized smartphone application for postural sway assessment. With Dmitry German	Speaker
*June 18 th -19 th 2020	The annual IPTS conference	Avenue convention center, Airport city.	The microbiome in chronic spinal pain	Speaker Postponed due to COVID-19 crisis

b. Organization of Conferences or Sessions

Years	Name of Conference	Place of Conference	Subject of Conference	Role
April 12 th 2009	Assessment of cervical motion in a virtual environment	University of Haifa	Academic staff seminar	Organizer & Speaker
Nov. 25 th 2010	Peripheral nerve injuries in the shoulder region	University of Haifa	Academic staff seminar	Organizer & Speaker
March 18 th	Selected issues in	University of	Musculoskeletal	Organizer,

Years	Name of Conference	Place of Conference	Subject of Conference	Role
2014	musculoskeletal rehabilitation	Haifa	physiotherapy conference	chair, and speaker
June 19 th 2018	Movement and Dance in rehabilitation conference	University of Haifa	Dance medicine, Dance Therapy and rehabilitation, a multidisciplinary conference	Organizer, chair, and speaker. with Prof. Eli Carmeli

7. INVITED LECTURES

Abroad

Year	Name of Forum	Place of Lecture	Subject of Lecture	Role
July 4 th 2012	Neck research forum	The Centre of Clinical Research Excellence in Spinal Pain, Injury & Health. University of Queensland, Brisbane, Australia	Interactive assessment and training of neck pain using VR Part 1. The rational	Speaker
July 16 th 2012	Research Innovation and Research Higher Degree Meeting	The Centre of Clinical Research Excellence in Spinal Pain, Injury & Health. University of Queensland, Brisbane, Australia	Interactive assessment and training of neck pain using VR Part 2. Research findings	Speaker
Feb 20 th 2015	Queensland Health research group	The Centre of Clinical Research Excellence in Spinal Pain,	Assessment of patients with neck pain, study protocol tutorial.	Speaker

		Injury & Health. University of Queensland, Brisbane, Australia		
Feb 25 th 2015	Cervical Spine research forum	The Centre of Clinical Research Excellence in Spinal Pain, Injury & Health. University of Queensland, Brisbane, Australia	Training of neck movement in VR, findings and potential	Speaker

In Israel

Year	Name of Forum	Place of Lecture	Subject of Lecture	Role
March 2001	Clinical tutors workshop	Tel-Hashomer school of Physical Therapy, Tel Aviv University	1) Evidence for Exercise Therapy in Mechanical Neck Disorders.” 2) Muscle Length Examination	1) Speaker 2) Speaker
Feb. 2 nd 2002	Physiotherapy workshop	University of Haifa	Dynamic Stability	Keynote speaker
March 23 rd , 2004	Physiotherapy clinical tutoring seminar	University of Haifa	1) Clinical reasoning- what is it, and how to integrate it in clinical tutoring? 2) Anterior Knee Pain. 3) Impingement syndrome vs. Frozen Shoulder.	1) Keynote speaker 2) Speaker 3) Speaker
Dec. 24 th , 2006	Intel Health Day	Intel premises, Haifa	Low Back Pain- prevention and management	Speaker
Nov 18 th 2014	Israel- USA Aero medicine forum	The Aero Medicine Unit, Israeli Air Force, Tel Hashomer	Neck pain in pilots- a proposal for a new approach	Speaker

Year	Name of Forum	Place of Lecture	Subject of Lecture	Role
Dec 10 th 2014	Israel- Canada Aero medicine forum	The Aero Medicine Unit, Israeli Air Force, Tel Hashomer	Neck pain in fighter pilots- A pain in the neck?	Speaker

8. COLLOQUIUM TALKS

Year	Name of Forum	Place of Lecture	Presentation
June 2001	Post-graduate course	Lyn Physiotherapy Dpt., Clalit health services, Haifa	Taping techniques for the injured shoulder
August 2001	Post-graduate course	Fliman hospital, Physiotherapy Dpt. Haifa	Taping techniques for the injured shoulder
*Nov 2019	TED Kerem	Kerem Maharal	Inflammation!!! Time to understand it
*April 2020	TED Kerem	Kerem Maharal	Pain! What shall I do?!

9. RESEARCH GRANTS

PI: Principle investigator, Co-PI: Co Principle investigator, CI: Co-investigator,

a. Grants Awarded

Role in Research	Other Researchers	Title	Funded by (C=competitive)	Amount	Year	Publications
CI	Tamar Weiss (PI) & Yocheved Laufer (PI)	Assessment of Mechanical Neck Disorders in a Virtual Environment	Caesarea Rothschild Institute (CRI) grant (C)	US\$10,000	2004	D4

Role in Research	Other Researchers	Title	Funded by (C=competitive)	Amount	Year	Publications
PI	-	Interactive neck assessment and training technology.	Tnufa fund, The Office of the Chief Scientist, Ministry of Industry, Trade and Labor, state of Israel. (C)	200,000 NIS	2010 - 2011	D13,14 Was invited to Microsoft ThinkNext event, and the Israel Conference for Israeli Innovation, LA 2011.
PI	-	Interactive neck training-pilot study	Research authority seed money grant	5,000 NIS	2012	D13, 14, 15
Co-PI	Julia Treleaven (PI)	Remote kinematic e-training/ healthcare for patients with chronic neck pain, a randomized clinical trial	Physiotherapy research fellowship, Health and Medical research, Department of Health, Queensland Government (C)	\$49,788 AUD	2013	D13, 15, 17, 21
PI	Gali Dar (CI), Daniel Deutscher (CI), Heba Assi (CI)	The effect of pre-therapy telephone consultation based on extension directional preference in patients with low back pain	Maccabi Health Services (C)	58,850 NIS	2014	-

Role in Research	Other Researchers	Title	Funded by (C=competitive)	Amount	Year	Publications
PI	Barak Gordon (CI), Yuval Levi (CI), Yael Frankel (Co-PI)	Therapeutic virtual reality training for neck pain in Israeli Air Force pilots – A randomized controlled trial	IDF Israeli Defense Force, Military medicine corporation (C)	90,000 NIS	2014	
PI	Galia Palomo (CI)	Characteristics of neck pain in combat pilots as compared to general population	The faculty of social welfare and health sciences	5000NIS	2017	In writing (L2)
PI	Dmitry German (Co-PI), Yacov Grossman (CI)	Development of a novel fall-prone identification tool for the elderly population	Meuchedet health services, Medical division, Physiotherapy	70,000NIS	2017	Unfortunately, the contract between Meuhedet and Uni Haifa was not completed.
*PI	Hagit Hel-or (Co-PI), Efrat Shersensor (CI)	Interdisciplinary Development of a novel computerized evaluation tool for deformational plagiocephaly in infants	Shiluvim research grant, Social sciences faculty	50,000 NIS	2019	

Role in Research	Other Researchers	Title	Funded by (C=competitive)	Amount	Year	Publications
*PI	Hagit Hel-or (Co-PI)	Interdisciplinary development of a novel computerized evaluation tool for deformational plagiocephaly in infants	Data Science Research Center Fund	80,000 NIS	2019	

b. Submission of Research Proposals – Pending

None

c. Submission of Research Proposals – Not Funded

Role in Research	Other Researchers	Title	Funded by (C=competitive)	Amount	Year	Publications
CI	Yocheved Laufer (PI), David Yarnitzki (CI)	Assessment of neck function in a virtual environment	Chief scientist office, Health ministry (C)		2006	D4, 5, 6
CI	Yocheved Laufer (PI), Tamar Weiss (PI)	Assessment of neck function in a virtual environment	National Insurance institute of Israel (C)		2007	D4, 5, 6
PI	Jeremy Lewis (CI)	Treating Neck Pain Using Functional Virtual Reality Training	Young Researcher's Grant, the North American Spine Society (C)		2010	
CI	Julia Treleaven (PI),	Interactive neck training for assessment and treatment of neck pain	Australian research council (C)		2012	D13

Role in Research	Other Researchers	Title	Funded by (C=competitive)	Amount	Year	Publications
PI	Dr. Julia Treleaven (CI),	Identifying and investigating motion profiles in patients with chronic neck pain, and their relationship to subjective complaints and other physical measures	ISF- Israel Science Foundation (C)		2012	
PI	Pe'erly Setter (Co-PI)	An Interactive System for Diagnostics and Treatment of Amblyopia	CRI- Caesarea Rothschild Institute (C)		2013	
PI	Prof. Deborah Falla (Co-PI)	Remote kinematic e-training healthcare for patients with chronic neck pain, an RCT	GIF young researcher program (C)		2013	
Israeli PI	Prof. Deborah Falla- (German PI)	The transition from acute to chronic neck pain: investigation of prognostic factors and the effect of an early intervention	GIF, general program (C)		2014	
PI	Dr. Ilan Youngster (Co-PI)	Microbiotic markers in chronic spinal pain: Is it time to move beyond the mechanistic approach?	Sir John Templeton foundation (C)	Amount requested \$425,787 USD	2017	

Role in Research	Other Researchers	Title	Funded by (C=competitive)	Amount	Year	Publications
PI	Matthew Smuck (Hosting Supervisor), Stanford University, Justin Sonnenburg (CI), Stanford University. Alexander Bolshoy (CI), University of Haifa	Microbiotic markers in chronic spinal pain: an interdisciplinary bi-national investigation beyond the mechanistic approach	EU Horizon 2020: Global individual fellowship program (C)	257,191 EUR	2017	
PI	Prof. Alon Wolf (Co-PI), Prof. Anath Somech (Co-PI)	Development of a novel computerized evaluation tool for deformational plagiocephaly in infants using 3D scanning, modeling and learning methods	Milgrom research fund for Technion-University of Haifa collaboration	100,000 USD	2018	
*PI	Dr. Ilan Youngster, Dr. Irit Weissman Fogel	The microbiome and chronic spinal pain	The North America Spine Association Research Grant	80,000 USD	2020	
*PI	Dr. Ilan Youngster, Dr. Irit Weissman Fogel	The microbiome and chronic spinal pain	The Spine Intervention Society Research Grant	50,000 USD	2020	

10. SCHOLARSHIP, AWARDS AND PRIZES

1. Faculty of Social Welfare and Health sciences Dean's prize for research proposal: "Assessment of Mechanical Neck Disorders in a Virtual Environment", **10,000 NIS**. October 2004 (with Tamar Weiss and Yocheved Laufer).
2. Post-doctoral scholarship of **\$3,500** was granted for research proposal "Interactive neck training- reliability and interventional study" 2012.

11. TEACHING

a. Courses Taught in Recent Years

Year	Name of Course	Type of Course	Level	Number of Students
2002	Kinesiology	Lecture	Undergraduate- B.P.T	54
2002 – 2009 2010- present	Musculoskeletal Assessment and Management	Lecture & practical sessions	Undergraduate- B.P.T	47-54
2011, 2014- present	Advanced issues in musculoskeletal physiotherapy	Seminar	Post graduate M.Sc	8-20

b. Supervision of Graduate Students

Name of Student	Name of Other Mentors	Title of Thesis	Degree	Year of Completion/ in Progress	Students' Achievements
M.A. Students					
Ofer Blutreich		Evaluating the strength relation between flexors and extensors of the elbow and wrist in competitive climbers as compared with non-climbers	Msc	2014	High distinction was awarded for thesis. Paper Published to <i>Journal of Novel Physiotherapies</i> (D26)
Orna Kerner		The Shoulder Symptom Modification Procedure	Msc	2014	Paper published in <i>Journal of Novel</i>

Name of Student	Name of Other Mentors	Title of Thesis	Degree	Year of Completion/ in Progress	Students' Achievements
		(SSMP): Reliability Study			<i>Physiotherapies (D19).</i>
Eitan Feiglsson		Evaluation of the effect of taping on neck pain, disability, range of motion and kinematics	Msc	2014	Paper published in <i>Yoga and Physiotherapy (D24)</i>
Zohar Dori		Unusual Scapular Winging- A Case Report	Msc	2015	Published in <i>Manual Therapy (D15)</i>
Yonatan Kurtz		The Israeli runner- Training characteristics and risk factors	Msc	2015	-
Dmitry German		A new clinical tool for balance testing using an I-phone application: development and validation study.	Msc	2016	Was awarded with Excellence scholarship. Paper submitted to <i>Journal of manipulative physiological therapeutics (J2)</i>
Mahmud Agrabia		Reliability of cervical motion kinematic measures	Msc	2016	Paper published in <i>Journal of Novel Physiotherapies (D20)</i>
Tamar Ben Huda		The modified heel rise test in triathletes as compared to non-athletes	Msc	2016	
Erez Rotman		Biomechanical analysis of stand up paddling	Msc	2016	
Andrei Levi		Forward head posture and cervical mobility in patients with neck pain and asymptomatic	Msc	2017	Paper submitted to <i>Human Movement (J2)</i>

Name of Student	Name of Other Mentors	Title of Thesis	Degree	Year of Completion/ in Progress	Students' Achievements
		individuals			
Olivier Berland		Performance differences between minimalist and conventional runners in vertical jump and dynamic balance tests: A pilot study.	Msc	2017	Paper submitted to <i>Journal of strength and conditioning research</i> (J1)
Hila Gold		A new classification for neck pain using latent class analysis	Msc	Thesis submitted	Paper in writing
Galia Palomo		The objective and subjective characteristics of fighter pilots with neck pain, compared to similar patients in the general population.	Msc	2020	Paper in writing
Naama Eyal		The Argenta's classification of Plagiocephaly- A reliability study	Msc	In progress	
*Lital Kishon		Risk factors for injury in professional contemporary dancers	Msc	In progress	
*Michal Linkovski		The relationship between upper and lower limb functional ability in patients with shoulder pain and controls	Msc	In progress, In maternity leave at present	
*Liran Havton		Lower limb strength in Shoulder impingement syndrome. Is there weakness beyond the symptomatic shoulder?	Msc	Research proposal approved	
*Michal Remez		The effect of dominance on shoulder pain in Shoulder Impingement	Msc project	Research proposal approved	

Name of Student	Name of Other Mentors	Title of Thesis	Degree	Year of Completion/ in Progress	Students' Achievements
		Syndrome.			

PUBLICATIONS

For joint publication the order of the listed authors is according to their relative contribution (unless otherwise specified).

Google Scholar link: <https://scholar.google.com/citations?user=KVCRD58AAAAJ&hl=en>

H-index: 12, Cited by 602

Citation index: i10-index 12

ORCID number: 0000-0001-5162-5797

A. Ph.D Dissertation

Title: "Assessment of neck motion in a virtual environment"

Date of Submission: 2010, Language- English.

Number of Pages: 109

Name of Supervisors: Prof. Yocheved Laufer and Prof. Tamar Weiss

University: Faculty of social welfare and health sciences, University of Haifa.

B. Scientific Books (Refereed)

None

C. Monographs

Published

1. **Sarig-Bahat, H.** (1999): Evidence for Exercise Therapy in Mechanical Neck Disorders. In: What is the critically appraised evidence in the literature for common physiotherapy questions: A complication of the work of students enrolled in the physiotherapy research project 11402. Centre of Allied Health Research, School of Physiotherapy, University of South Australia. pages 1-24.

D. Articles in Refereed Journals

IF, Ranking and Q were taken from ISI at year of publication, unless stated otherwise.

#= Student under my supervision

Published

1. **Sarig-Bahat, H.** and Cohen, D. (1999): The amount of Out-Toeing while standing - A comparison between normal and sport population. *The Journal of the Israeli Physiotherapy Society (JIPTS)* vol. 1(1), pages 9-13. (Hebrew)

2. **Sarig-Bahat, H.** (2003): Evidence for exercise therapy in mechanical neck disorders. *Manual Therapy* vol 8(1) pp. 10-20. IF (2003)=1.189; R=6/24 (Q1) in Rehabilitation; V
This article was cited by 142, and was awarded the 9th best article in "Manual Therapy" Journal, in the 25 best articles selected in 2005

3. Lahad, A. and **Sarig-Bahat, H.** (2007): Israeli guidelines for prevention of low back pain, *Harefuah* vol. 146, pp. 253-257. Even contribution, (V) (Hebrew).

4. **Sarig Bahat, H.** Weiss, P.L. Laufer, Y. (2009): Cervical motion assessment using virtual reality. *Spine* 34(10) pp.1018-1024.
IF (2009)=2.624; R=60/167 (Q2) in Clinical Neurology, 7/56 (Q1) in Orthopedics; V

5. **Sarig Bahat, H.** Weiss, P.L. Laufer, Y. (2010): Neck pain assessment in a virtual environment. *Spine* 35(4) pp.E105-E112.
IF (2010)=2.510; R=76/185 (Q2) in Clinical Neurology, 10/61 (Q1) in Orthopedics; V

6. **Sarig Bahat, H.** Weiss, P.L. Laufer, Y. (2010): The effect of neck pain on cervical kinematics, as assessed in a virtual environment. *Archives of Physical Medicine and Rehabilitation*. vol. 91(12), p.1884-1890.
IF (2010)=2.254; R=7/44 (Q1) in Rehabilitation, 18/80 (Q1) in Sport Science; V

7. **Sarig Bahat, H.** (2010): Exercises in the internet. *The Journal of the Israeli Physiotherapy Society* (JIPTS) vol. 12(3), p.32 (**Invited**, Hebrew)

8. **Sarig-Bahat, H.** Eshkol Izrael, H. (2012): Neck-shoulder pain and weakness: An uncommon presentation. *Manual Therapy*, vol. 17, p.255-258
IF (2012)=2.237; R=11/64 (Q1) in Rehabilitation; V

9. **Sarig Bahat, H.** Krasovsky, A. Sprecher, E.(2013): Evaluation of clinical methods for peroneal muscle testing. *Physiotherapy Research International*, Vol. 18(1) p. 55–62.
This article was selected 4th of top 20 Articles by BioMedLib, Since 2013
SJR (2013)=0.405; R=71/168 (Q2) in Physical Therapy, Sports Therapy and Rehabilitation

10. **Sarig Bahat, H.** (2013): Do these large numbers contrast multiple smaller-number prior studies? *European Spine Journal* Vol. 22(5) P. 1191-1192
IF (2013)=2.473; R=85/194 (Q2) in Clinical Neurology, 12/67 (Q1) in Orthopedics; V

11. **Sarig Bahat H.,** Weiss P.L., Krasovsky A., Laufer Y.(2014) Do neck kinematics correlate with pain intensity, neck disability or with fear of motion? *Manual Therapy* Vol.19 P. 252-258.
IF (2014)=1.714; R=22/64 (Q2) in Rehabilitation; V

12. **Sarig Bahat H.** (2014) 'Stretch marks'- more than skin deep? *The Journal of the Israeli Physiotherapy Society (JIPTS)*, Vol 16(2), P.30-36. (Hebrew)

13. **Sarig Bahat, H.,** Takasaki, H., Chen, X., Bet-Or, Y., Treleaven, J. (2015): Cervical kinematic training with and without an interactive virtual reality device for chronic neck pain- a pilot randomized clinical trial. *Manual Therapy* Vol.20, p.68-78.
IF (2015)=1.869; R=15/65 (Q1) in Rehabilitation; V

14. **Sarig Bahat, H.,** Chen, X., Reznik, D., Kodesh, E., Treleaven, J. (2015): Interactive cervical motion kinematics: sensitivity, specificity and clinically significant values for identifying kinematic impairments in patients with chronic neck pain. *Manual Therapy* Vol.20, p.295-302.
IF (2015)=1.869; R=15/65 (Q1) in Rehabilitation; V

15. Treleaven, J., Battershill, J., Cole, D., Fadelli, C., Freestone, S., Lang, K., **Sarig Bahat, H.** (2015) Simulator sickness incidence and susceptibility during neck motion-controlled virtual reality tasks. *Virtual Reality*, Vol.19, Issue 3, Page 267-275.
IF (2015)=0.568; R=96/104 (Q4) in Computer Science, Interdisciplinary Applications, 85/106 (Q4) in Computer Science, Software Engineering, 20/24 (Q4) in Imaging Science & Photographic Technology; V

16. #Dori Z., **Sarig Bahat H.** (2016), Unusual Scapular Winging- A Case Report. *Manual Therapy*, Vol. 24, Page 75-80.
IF (2016)=2.158; R=15/65 (Q1) in Rehabilitation; V

17. Treleaven, J., Chen, X., **Sarig Bahat, H.** (2016) Factors associated with kinematic impairments in patients with neck pain, *Manual Therapy*, Vol. 22, p.109-115.
IF (2016)=2.158; R=15/65 (Q1) in Rehabilitation; V
18. **Sarig Bahat H.**, Sprecher E., Sela I., Treleaven J.(2016): Kinematics of neck motion- An intertester reliability study. *European Spine Journal*, 25 (7), 2139-2148.
IF (2016)=2.563; R=91/194 (Q2) in Clinical Neurology, 18/76 (Q1) in Orthopedics; V
19. **Sarig Bahat H.**, #Kerner O. (2016): The Shoulder Symptom Modification Procedure (SSMP): A Reliability Study. *Journal of Novel Physiotherapies*, S3: 011
20. **Sarig Bahat H.**, #Igbariya M., Quek J., Treleaven J. (2016): Cervical Kinematics of fast neck motion across age. *Journal of Novel Physiotherapies*, 6 (306), 2.
21. Treleaven, J, Williams, G., Williams K., **Sarig-Bahat, H.** (2017) Cervical kinematics in patients with vestibular pathology vs. patients with neck pain. *Journal of vestibular research*, 27 (2-3), 137-145.
IF (2016)=0.900; R=240/259 (Q4) in Neurosciences, 34/42 (Q4) in Otorhinolaryngology; V
22. Treleaven, J., Croft, K., Carter, C., Hoddinott, A., **Sarig-Bahat, H.** (2017): Are functional complaints relating to neck motion related to altered cervical kinematics in those with neck pain? *Musculoskeletal Science and Practice (Formerly Manual Therapy)* 28, e12.
IF (2016)=2.158; R=15/65 (Q1) in Rehabilitation; V
23. #Tyrell R., **Sarig Bahat, H.**, Williams K., Williams, G., Treleaven, J. (2018) Simulator Sickness in Patients with Neck Pain and Vestibular Pathology during Virtual Reality Tasks. *Virtual Reality*, 22 (3), 211-219.
IF (2016)=0.628; R=100/105 (Q4) in Computer Science, Interdisciplinary Applications, 94/106 (Q4) in Computer Science, Software Engineering, 24/26 (Q4) in Imaging Science & Photographic Technology; V
24. **Sarig Bahat H**, #Feigelson E, Vulfsons S (2018) The potential effect of cervical taping on pain, disability and kinematics in patients with chronic neck pain – A quasi-experimental study. *Journal of Yoga, Physical Therapy and Rehabilitation*. 2(4): 32-40.

25. **Sarig Bahat H.**, C. Carter, K. Croft, A. Hoddinott, Sprecher E., Treleaven J. (2018) Remote kinematic training for patients with chronic neck pain- a randomized controlled trial. *European Spine Journal*, vol 24(4): 1309-1323.
IF (2017)=2.792; R= 18/76 (Q1) in Orthopedics; V
26. ***Sarig-Bahat H**, #Blutreich O, Kodesh E. (2019) Isokinetic Profile of Elbow Flexor and Extensor Muscles in Climbers and Non-climbers. *Journal of novel physiotherapies*, Vol 9(1): 403, DOI: 10.4172/2165-7025.1000403.
27. *Anneli Peolsson, Anette Karlsson, Bijar Ghafouri, Tino Ebbers, Maria Engström, Margaretha Jönsson, Karin Wählen, Thobias Romu, Magnus Borga, Eythor Kristjansson, **Hilla Sarig Bahat**, Dmitry German, Peter Zsigmond, Gunnel Peterson (2019) Pathophysiology behind Prolonged Whiplash Associated Disorders: Study Protocol for an Experimental Study. *BMC Musculoskeletal Disorders*. 20(1), p.51 IF 1.998 R=34/79 (Q2) in Orthopedics
28. ***Sarig Bahat H.**, Watt P., Rhodes M., Hadar D., Treleaven J. High- vs. low-tech cervical movement sense measurement in individuals with neck pain. *Musculoskeletal Science and Practice*. Vol. 45, p. 102097.
IF 2.158; R=15/65 (Q1) in Rehabilitation; V
- Accepted for Publication**
29. ***Sarig Bahat H.**, Hadar D., Treleaven J. Predicting factors for response to kinematic home exercises in patients with chronic neck pain. *Journal of Manipulative and Physiological Therapeutics*. IF 1.274, Q2 in Rehabilitation; V
30. *#German D, **Sarig Bahat H**, Validity and reliability of a customized smartphone application for postural sway assessment. *Journal of Manipulative and Physiological Therapeutics*. IF 1.274, Q2 in Rehabilitation; V
31. ***Sarig Bahat H.**, #German D., #Palomo G., #Gold H., Frankel Nir Y., Self-Kinematic Training for

Flight Associated Neck Pain, a Randomized Controlled Trial. Aerospace Medicine and Human Performance IF= 0.954, Q2 by SJR in Medicine (miscellaneous). V

E. Articles or Chapters in Scientific Books (Refereed)

Published

1. **Sarig Bahat H.** (2011): Chapter 10- Neck Motion Analysis Using a Virtual Environment. In Virtual Reality, Edited by Jae-Jin Kim, published by INTECH International, pages 189-214. ISBN 978-953-307-518-1. Link to open access: <http://www.intechweb.org/books/show/title/virtual-reality>

Note: this chapter has achieved impressive readership results of 3485 downloads by Jan 2015.

F. Articles in Conference Proceedings

1. **Sarig Bahat H.,** K. Croft, A. Hoddinott, C. Carter, Treleaven J.(2016): Remote kinematic e-training for patients with chronic neck pain, a randomised controlled trial (Conference proceedings). Manual Therapy, Vol. 25 e35. (IF 2.158, Rank=15/65 in Rehabilitation, Q1 V) IF (2016)=2.158; R=15/65 (Q1) in Rehabilitation; V

G. Entries in Encyclopedias

None

H. Other Scientific Publications

1. **Sarig-Bahat, H.** (2010): Book review "Tension type and cervicogenic headache". The Journal of the Israeli Physiotherapy Society (JIPTS) vol. 12(1), p.18 (**Invited**, Hebrew)
2. **Sarig Bahat, H.,** Takasaki, H., Chen, X., Bet-Or, Y., Treleaven, J. (2015): Cervical kinematic training with and without an interactive virtual reality device for chronic neck pain—a pilot randomized clinical trial, Physiotherapy Vol. 101, e1535-e1536

I. Other Works and Publications

Publications

1. **Sarig-Bahat, H.** (2004): A collection of clinical patterns – upper extremity. Student's handbook, University of Haifa publication, 53 pages.
2. **Sarig-Bahat, H.** (2006): Low Back Pain- prevention and management. www.ynet.co.il/physiotherapy. Media publication
3. **Sarig-Bahat, H.** (2007): Degenerative knee disease- what to do? Biosport- monthly health & sports April issue, Yediot Ahronot newspaper. Media publication

4. Laufer, Y. **Sarig-Bahat, H.** Weiss, P.L. (2008): What is between killing flies and neck pain? Virtual reality as an assessment and rehabilitation tool. Shikumada vol.26, pp.22-24 (Hebrew)
5. **Sarig Bahat, H.** RE Incorrect primary choice, Haaretz July 15, 2016.
6. **Sarig Bahat, H.** The gynecologist who dashed me, Haaretz Jan 25, 2017.

Patents

1. **Sarig Bahat Hilla.** Motion assessment system and method US 8679037 B2, Granted (Filed 2009, published 2014).
Also published as:
 - EP2358450A1,
 - EP2358450A4,
 - US20110230792,
 - WO2010064237A1
2. **Sarig Bahat Hilla.** Motion assessment system and method, IL/2009/001135. Granted (published 2014).
3. **Sarig Bahat Hilla:** Provisional US patent App 0-13-040 CRML-P-007-USP “Computerized ophthalmic training” A system for interactive training of eyes motor control to treat Strabismus and recover stereoscopic vision.

J. Other Works Connected with my Scholarly Field

1. Virtual reality research to help neck pain.(2015) The Australian, March 20. News article in the national Australian newspaper covering our research in University of Queensland.
(<http://www.theaustralian.com.au/news/latest-news/virtual-reality-research-to-help-neck-pain/story-fn3dxiwe-1227271113155>)
2. Virtual reality research to help neck pain: Queensland researchers. (2015) The Sydney Morning Herald, March 23. <http://www.smh.com.au/technology/sci-tech/virtual-reality-research-to-help-neck-pain-queensland-researchers-20150323-1m3uja.html>

K. Submitted Publications

1. *#Berland O, **Sarig-Bahat, H.**, Performance differences between minimalist and conventional runners in vertical jump and dynamic balance tests: A pilot study. Journal of strength and conditioning research. IF 2.060, R=28/81 (Q2) in Sports science.

2. **Sarig Bahat H.,** Levy A., Yona T. The Role of Forward Head Posture in Neck Pain. Human movement science IF 1.840, R=45/95 (Q2) in Sports science.

L. Summary of my Activities and Future Plans

In the first stage of my career as a physiotherapist (1997-2003) I acquired clinical skills, expanded my experience, and specialized in Musculoskeletal Physiotherapy at one of the best international programs- UniSA, Adelaide, Australia. My masters studies and thesis were the first academic step into the field of cervical spine research, which since has been my main topic of research. My Master's publication is highly cited (180 citations).

During my PhD studies I succeeded to implement an original idea into a novel development of a clinical apparatus. Following a very challenging low-budget development, I investigated the developed system in a series of clinical studies. With the support of research grants, and collaboration of international colleagues, we managed to extend the PhD prototype into a full system for diagnosis and training of neck motion. The Neck VR system has been utilized in several clinical studies in Israel and Australia (coming soon in Sweden), and led to winning grants, patents, and several publications in international peer-reviewed journals.

The successful collaboration with Dr. Julia Treleaven at the Cervical Spine and Whiplash Research Unit, University of Queensland, included conduction of clinical trials investigating kinematic training methodologies, which led to a winning proposal from Queensland Health Ministry. Our mutual work has advanced the understanding of movement impairments in chronic neck pain, and will continue to advance exercise protocols for patients with neck pain. Our next research aim is to explore various strengthening protocols and their effect on neck kinematics, pain and disability.

In addition, our Aero medicine research team has currently completed our trial at the Air force, and we are in writing of the paper for submission to Spine. We have been invited to present our RCT in the US-Israeli Airforce conference on April 2019. The conference is an opportunity for future collaboration in this subject with the US researchers.

Another novel technological development for a clinical purpose is a cellular application we developed for balance assessment, and showed it was valid and reliable (publication was submitted). We were granted a research fund by 'Meuhedet' to further explore this application in the elderly population at risk of falls. Based on these two works I plan to submit to one of the major grants.

A new and exciting field I have entered this year is the Microbiome. Although the EU

Merrie Currie global fellowship submission to Horizon 2020 was not accepted, we were encouraged to collect preliminary data and resubmit. Therefore I am currently working with Dr. Ilan Youngster on data analysis of our pilot study's data that was completed. This summer (2020) will be devoted to writing the 'Microbiome in chronic spinal pain' paper and grant proposal. I hope the microbiome in chronic musculoskeletal disorders will be my next major topic of research in the coming decade.

Overall, I plan to continue and pursuit new advanced solutions for health promotion and chronicity prevention. Keeping updated with technological advances and international research in spinal rehabilitation is challenging but fascinating. I would like to have an influencing role in advancing individualized health care and physical activity addressing nutritional, psychosocial and emotional factors.

Papers in Writing

1. **Sarig Bahat H.**, Levi A., Yona T. Forward head posture and its effect on pain, disability and kinematics in patients with neck pain as compared with asymptomatic individuals. Gait and Posture
2. Palomo G, **Sarig Bahat H.** Characteristics of neck pain in fighter pilots vs civilians. Spine
3. Palomo G, **Sarig Bahat H.** Conservative treatment for neck pain in fighter pilots- A systematic review. Spine
4. Gold H, **Sarig Bahat H.**, Latent class analysis of neck pain by subjective and objective charecteristics. Spine