

Name: Sharon Tsuk

Date: 26.4.2024

Curriculum Vitae

7/12/24

PERSONAL DETAILS

Permanent Home Address: #12 Ezra Hasofer, Herzliya, Israel
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Electronic Address: sharontsuk1@gmail.com
Date and Place of Birth: January 19th, 1974, Bat Yam, Israel
Marital Status: Married + 3
Military Service: IDF (Adjutant Officer)
Orchid link: <https://orcid.org/0000-0003-1024-2380>

Higher Education

Period	Name of Institution and Department	Degree
1995-1999	The Zinman College for Physical Education, Wingate Institute, Israel	B.Ed. in Physical Education (Graduated with honors)
2000 - 2008	under the supervision of Prof. Ilana Lotan (Director of the Ph.D. Program) Research topic: Involvement of Protein Regions in the Interactions of the Voltage-gated K ⁺ Channels Kv1.1 and Kv2.1 with the SNARE Proteins	Ph.D. in Physiology (Direct Doctoral Track)
2008	BioForum Education & Training Center, Ness Ziona, Israel	Qualification of CRA (Clinical Research Associate)

Member in professional societies

Period	Name of Society
2000-2008	Biophysical Society, USA
2000-2008	Israel Society of Physiology & Pharmacology
2015-Present	The Israel Society of Sports Medicine – Committee Member
2017-2020	ECSS – European College of Sport Science

Work experience

- 1998-1999** Physical education teacher at Hadarim high school, Hod-Hasharon.
- 2000-2001** Exercise Physiologist at the prevention of heart-diseases institute, the Tel Aviv Sourasky medical center.
- 2007-2015** Lecturer of Physiology and Anatomy courses, the School for Coaches and Instructors, Wingate Institute.

Professional experience

Electrophysiology	Injection of mRNA to <i>Xenopus</i> oocytes. Current recording utilizing Two-Electrode Voltage Clamp method
Molecular Biology	Recombinant cDNA methods including PCR, mutagenesis of various kinds; in-vitro transcription of mRNA
Biochemistry	In-vitro binding assay, western blots, immunoprecipitation, protein. purification
FRET	FRET assays in oocytes

Collaborations outside the Wingate College

Period of research	Name of Institution, Department and Host
2022- Present	Pain and Rehabilitation unit, Loewenstein rehabilitation hospital, Raanana, Israel. Main Collaborators: Dr Ifat Sandler
2021- Present	Neurological Rehabilitation, Loewenstein rehabilitation hospital, Raanana, Israel. Main Collaborators: Dr Osnat Granot
2020- Present	Sport Cardiology unit, Shamir Medical Center, Israel

	Main Collaborators: Dr Dan Hadas
2016- Present	Child developmental center, Loewenstein rehabilitation hospital, Raanana, Israel. Main Collaborators: Prof. Aviva Mimouni-Bloch

Academic Ranks and Tenure in Institutes of Higher Education

Dates	Name of Institution and Department	Rank/Position
2023-Present	School of physical education, Levinsky-Wingate Academic College	Head
2023-Present	Exercise physiology lab, Levinsky-Wingate Academic College	Head
2022- Present	Master of Science in Exercise Physiology; Sackler School of Medicine, Tel Aviv University	lecturer
2013- 2023	Medicine science. The Government Institute for Technology and Science Training - MAHAT, Israel.	Pedagogic coordination and writer of exams
2017- Present	Physical activity for cardiovascular patients; Levinsky-Wingate Academic College	Head of section
2009- Present	Levinsky-Wingate Academic College	Senior lecturer
2002-2007	Introduction to Biophysics; General Physiology; Sackler School of Medicine, Tel Aviv University	Teacher Assistant

Offices in the Wingate College Academic Administration

1. Head
2. Member.

Dates	Name of Institution and Department	Position
2022-Present	Committee for prevention of sexual harassment, Wingate campus	Head
2022-Present	of committee of ethics, Wingate campus.	Head
XXX-Present	of committee concerning safety of Wingate campus	Member

Courses Taught in Recent Years

Dates	Name of Course	Type of Course Lecture/ Seminar/High Learn Course/Course (Mandatory)	Degree
2009-present	General Physiology	Course (Mandatory)	B.Ed.
2009-present	Exercise physiology	Course (Mandatory)	B.Ed.
2009-2022	General Chemistry	Course (Mandatory)	B.Ed.
2009-2022	Biochemistry	Course (Mandatory)	B.Ed.
2009-present	Pathophysiology of cardiovascular diseases	Course	B.Ed.
2017-present	Physical Activity for Stroke patients	Course	B.Ed.
2009-present	Improvement of Physical Performance	Seminar	B.Ed.
2018-present	Skeletal Muscles Hypertrophy: physiological mechanisms	High Learning Course	M.Ed.
2018-present	Exercise-Induced Fatigue	High Learning Course	M.Ed.

Supervision of Graduate Students, Thesis

Name of Student	affiliation	Title of Thesis	Degree	In progress
Omri Ezra	Wingate College	An Efficient and Enjoyable Way for Physical Fitness	M.Ed	Finished.

		Development among Women at Midlife		
Ernstein Alin	Wingate College	The association between dietary pattern, nutritional status and blood test results in subjects participating in aerobic activity	M.Ed	Finished.
Carine Lazarowitz Zanzuri	Wingate College	The efficiency of Zoom versus studio group Pilates exercise training	M.Ed	Finished.
Hany Yoskovitch	Wingate College	A unique belt to improve stability and walking performance in low-risk stroke survivors with walking impairment	M.Ed	Data collection
Shai Behar	Wingate College	The effect of pharmacological treatment for ADHD on physical performance in male adolescent	M.Ed	Data collection
Hadar Milwidsky	Wingate College	Postural management of hyper- kyphosis for better motor and physiological functioning and HRQoL in cardiac rehabilitation patients	M.Ed	Proposal writing

Supervision of Graduate Students, Projects

Name of Student	affiliation	Title of Thesis	Degree	In progress
Omri Ezra	Wingate College	An Efficient and Enjoyable Way for Physical Fitness Development among Women at Midlife	M.Ed	Finished.
Ernstein Alin	Wingate College	The association between dietary pattern, nutritional status and blood test results in subjects participating in aerobic activity	M.Ed	Finished.
Yehonatan Mizrahi	Levinsky-Wingate Academic College	The effect of Boswellia supplement on Muscle recovery after intense exercise	M.Ed	Finished

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Invited Lectures

1. Physical performance- overview. Sport nutrient course. December 10, 2023.
2. Physiology of adolescence and children and its effect on sport ability. International conference for sport trainers. August 24, 2023.
3. Exercise physiology for physical education teachers, inspectors of physical education, ministry of education. 2021.
4. Exercise physiology for senior coaches, course of Yoram Menachem and Itzik Ben Melech. 2020.
5. Science of Newcombball trainings, lecture for coaches in newcombball (Catchball). 2020
6. Exercise induced fatigue, central governor model. Sport and nutrients congress. 2018.

Other activities outside the Wingate College

1. Thesis reviewer, Department of Physical Therapy, Haifa University

Congress Organization

Dates	Congress name	Position
2024		
2021	Seminar on Physical Activity for Postural tachycardia Syndrome patients. In collaboration with Prof. Yehonatan Sharabi, Hypertension Unit, Sheba Medical Hospital, Israel.	
2016	Seminar during the 3 rd Wingate conference on "Cardiovascular physiology and rehabilitation".	
2013	International seminar on "physical activity in extreme environment"	

2012	Seminar on "Physical activity and cardiac health"		

Conferences

1. **Sharon Tsuk**, Anat Engel, Tal Odem and Moshe Ayalon. Evaluation of the effects of commercial Moringa Oleifera supplement on physical fitness of young fit adults: A pilot study. International conference on adaptation & nutrition in sport (ICANS) Singapore, 19-21 July 2023.
2. **Sharon Tsuk**, Sima Zach, Omer Glixman, Einat Avieli, and Aviva Mimouni-Bloch. A Survey of Attitude of Future Physical Education Teachers as Health Promoters- Focus on ADHD Treatment. The 6th International Congress of Exercise and Sport Sciences, The Academic College at Wingate. 9-10 June 2021.
3. Omri Ezra, **Sharon Tsuk**, Yoav Meckel. Newcomb ball: training effect on the physical fitness of women at midlife. 24th Annual Congress of the European College of Sport Science. Prague, 3-6 July 2019.
4. **Sharon Tsuk**, Yarden Har Lev, Arie Rotstein, Aviva Zeev, Refael Carasso, Gilit Steiner. Effects of a commercial supplement of Ophiocordyceps Sinensis, and Genoderma Lucidum on physiological responses to maximal exercise in healthy young participants. 23th Annual Congress of the European College of Sport Science. Dublin, 4-7 July 2018.
5. Omri Ezra, **Sharon Tsuk**, Yoav Meckel. Newcomb ball: training effect on the physical fitness of women at midlife. The 5th International Congress of Exercise and Sport Sciences, The Academic College at Wingate. 7-10 June 2018.
6. **Sharon Tsuk**, Yarden Har Lev, Orly Fox, Rafael Carasso, Ayelet Dunskey. Effects of low laser irradiation on peak power muscle performance and recovery. The 5th International Congress of Exercise and Sport Sciences, The Academic College at Wingate. 7-10 June 2018.
7. Ayelet Dunskey, Mona Abu-Rukun, **Sharon Tsuk**, Tzvi Dwolatzky, Rafael Carasso, Yael Netz. The effect of acute resistance exercise on executive function and attention of adults. The 5th International Congress of Exercise and Sport Sciences, The Academic College at Wingate. 7-10 June 2018.

8. **Sharon Tsuk**, Ayelet Dunsky, Rafi Carasso, Tzvi Dwolatzky, Riki Salem, Yael Netz. The acute effect of exercise on executive function and attention: Resistance versus aerobic exercise. The 2012 Wingate Congress of Exercise and Sport Sciences, 2-5 June 2016.
9. **Sharon Tsuk**, Rafael Carasso, Tzvi Dwolatzki, R. Salem; G Zamir, Yael Netz. The effect of a single bout of aerobic versus resistance exercise on cognitive functions in young adults. The 2012 Wingate Congress of Exercise and Sport Sciences. 15-17 March 2012.
10. **Sharon Tsuk**, Anatoly Levov, Dodo Chikvashvili, Ilana Lotan. Formation of the ternary SNARE complex eliminates functional and physical interactions of its individual proteins components with the Kv2.1 Channel. Biophysical Society 51st Annual Meeting, 2007.
11. D. Singer-Lahat, Dodo Chikvashvili, **Sharon Tsuk**, A. Shenin, A; M. Benveniste, Ilana Lotan. Physical interaction between a voltage-gated K⁺ channel and Syntaxin 1A Regulates Ca²⁺-dependent Exocytosis in PC12 cells. Biophysical Society 50th Annual Meeting, 2006.
12. I. Michaelievski, **Sharon Tsuk**, T. Wilf-Goldberg, RH Joho, Ilana Lotan. The C-terminus of Kv2.1 channel mediates the physical and functional effects of syntaxin 1A and SNAP-25 on the channel. Biophysical Society 48th Annual Meeting, 2004.
13. YM Leung, X Gao, L Sheu, **Sharon Tsuk**, Y. Kang, HL Xie, OT Jones, Ilana Lotan, RG Tsushima, HY Gaisano. Syntaxin-1A binds and regulates Kv2.1 at its C-terminus and reduces Kv2.1 surface expression. Biophysical Society 47th Annual Meeting, 2003.

Academic Publications

1. **Tsuk S**, Weiss G, Amedi R, Glixman O, Essel M, Grosman-Rimon L, Carasso R, Zeev A, Rotstein A. The Effect of Transcutaneous Median Nerve Stimulation on Heart Rate Variability in Healthy Young Adults. Health Technology, 8(1). 2024.
2. Lazarowitz Zanzuri C, Hadas D, Hutzler Y, Goral A, **Tsuk S**. Remote Pilates Training Is Effective in Improving Physical Fitness in Healthy Women: A Randomized Controlled Study. Healthcare, 12(7), 724. 2024. IF:2.8.
3. **Tsuk S**, Zach S, Glixman O, Rotstein A, Avieli E, Mimouni-Bloch A. 2023. Attitudes toward stimulant medication for treating ADHD among physical education student teachers. Journal of Physical Education & Sport, 23(5).
4. **Tsuk S**, Engel A, Odem T, Ayalon M. 2022. A pilot study to evaluate the effects of commercial Moringa Oleifera supplement on physical fitness of young fit adults. Scientific Journal of Sport, 2(1). <https://sjsp.acaredo.es/index.php/sjsp/article/view/moringa-oleifera-supplement-physical-fitness-young-fit-adults>

5. **Tsuk S**, Engel, A, Odem T, & Ayalon M. 2022. Evaluation of the effects of commercial Moringa Oleifera supplement on physical fitness of young fit adults: A pilot study. Scientific Journal of Sport and Performance, 2(1), 44–51. <https://doi.org/10.55860/YTTN7101>
6. Liza Grosman-Rimon, Evan Wright, Solomon Sabovich, Jordan Rimon, Sagi Gleitman, Doron Sudarsky, Alla Lubovich, Itzhak Gabizon, Spencer D Lalonde, **Sharon Tsuk**, Michael A McDonald, Vivek Rao, David Gutterman, Ulrich P Jorde, Shemy Carasso, Erez Kachel. 2022. Relationships among norepinephrine levels, exercise capacity, and chronotropic responses in heart failure patients. Heart Failure Reviews. <https://doi.org/10.1007/s10741-022-10232->
7. Ezra O, **Tsuk S**, Eliakim A, and Meckel Y. 2020. An Efficient and enjoyable way for physical fitness development among women at midlife. Health,12(8). IF: 0.82. (0 citations).
8. **Tsuk S**, Har Lev Y, Fox, Carasso R, Dunsky A. 2020. Does photobiomodulation therapy enhance maximal muscle strength and muscle recovery? Journal of Human Kinetics, IF:1.664. (2 citations).
9. **Tsuk S**, Netz Y, Dunsky A, Zeev A, Carasso R, Dwolatzky T, Salem R, Behar S, Rotstein A. 2019. The acute effect of exercise on executive function and attention: resistance versus aerobic exercise. Advances in Cognitive Psychology, 15(3): 208–215. IF:1.2. (3 citations).
10. Leopold E, Navot-Mintzer D, Shargal E, **Tsuk S**, Tuller T, Scheinowitz M. 2019. Prediction of the Wingate anaerobic mechanical power outputs from a maximal incremental cardiopulmonary exercise stress test using machine-learning approach. PLoS One, 14(3). IF:3.54. (1 citations).
11. Meckel Y, Ekshtein A, **Tsuk S**, Eliakim A. 2019. Pre-Exercise subjective estimation of heart rate in different physical activities among physical education students. Advances in Physical Education, 9(01),42-52. IF:2.942. (2 citations).
12. **Tsuk S**, Har Lev Y, Rotstein A, Carasso R, Zeev A, Carasso R, Steiner G. 2018. Effects of a commercial supplement of Ophiocordyceps Sinensis (Cordyceps Sinensis) and Ganoderma Lucidum on physiological responses to maximal exercise in healthy young participants. International Journal of Medicinal Mushrooms, 20(4), 359-367. IF:1.423. (4 citations).
13. **Tsuk S**, Har Lev Y, Rotstein A, Carasso R, Zeev A, Netz Y, Dwolatski T, Steiner G. 2017. Clinical effects of a commercial supplement of Ophiocordyceps sinensis and Ganoderma lucidum on cognitive function of healthy young volunteers. International Journal of Medicinal Mushrooms, 19(8). IF:1.423. (5 citations).
14. Dunsky A, Abu-Rukun M, **Tsuk S**, Dwolatzky T, Carasso R, Netz Y. 2017. The effects of a resistance vs. an aerobic single session on attention and executive functioning in adults. PLoS One, Jun 12,12(6), IF:3.54. (36 citations).

15. Netz Y, Abu-Rukun M, **Tsuk S**, Dwolatzky T, Carasso R, Levin O, Dunsky A. 2016. Acute aerobic activity enhances response inhibition for less than 30 min. Brain Cognition, 109, 59-65. IF:2.399, 34/267 Arts and Humanities, (8 citations).
16. Lvov A, Greitzer D, Berlin S, Chikvashvili D, **Tsuk S**, Lotan I, Michaelievski I. 2009. Rearrangements in the relative orientation of cytoplasmic domains induced by a membrane-anchored protein mediate modulation in Kv channel gating. Journal of Biological Chemistry, 284(41), 28276-28291. IF:5.328, 71/289 Biochemistry & Molecular Biology, (10 citations).
17. **Tsuk S**, Lvov A, Michaelievski I, Chikvashvili D, Lotan I. 2008. Formation of the full SNARE complex eliminates interactions of its individual protein components with the Kv2.1 channel. Biochemistry, 47(32), 8342-8349. IF: 3.379, 96/275 Biochemistry & Molecular Biology, (21 citations).
18. Singer-Lahat. D, Sheinin. A, Chikvashvili. D, **Tsuk. S**, Greitzer. D, Freidrich. R, Feinsreiber. L, Ashery. U, Benbeniste. M, Levitan. ED, Lotan. I. 2007. K⁺ Channel facilitation of Exocytosis by dynamic interaction with Syntaxin. Journal of Neuroscience, 27(7), 1651-1658. IF: 7.490, 15/211 Neurosciences, (64 citations).
19. **Tsuk S**, Michaelievski I, Bentley GN, Joho RH, Chikvashvili D, Lotan I. 2005. Kv2.1 channel activation and inactivation is influenced by physical interactions of both syntaxin 1a and the syntaxin 1a/soluble n-ethylmaleimide-sensitive factor-25 (t-snare) complex with the c terminus of the channel. Molecular Pharmacology, 67(2), 480-488. IF: 4.612, 22/193 Pharmacology & Pharmacy, (38 citations).
20. Michaelievski I, Chikvashvili D, **Tsuk S**, Singer-Lahat D, Kang Y, Linial M, Gaisano HY, Fili O, Lotan I. 2003. Direct interaction of t-snares with the kv2.1 channel: Modal regulation of channel activation and inactivation gating. Journal of Biological Chememistry, 278(36), 34320-34330. IF:6.482, 31/261 Biochemistry & Molecular Biology, (66 citations).
21. Leung YM, Kang Y, Gao X, Xia F, Xie H, Sheu L, **Tsuk S**, Lotan I, Tsushima RG, Gaisano HY. 2003. Syntaxin 1a binds to the cytoplasmic c terminus of kv2.1 to regulate channel gating and trafficking. Journal of Biological Chemistry, 278(19), 17532-17538. IF:6.482, 31/261 Biochemistry & Molecular Biology, (141 citations).
22. MacDonald PE, Wang G, **Tsuk S**, Chikvashvili D, Kang Y, Tang L, Wheeler MB, Cattral MS, Lakey JR, Salapatek AM, Lotan I, Gaisano HY.2001. Synaptosome-associated protein of 25 kilodaltons modulates kv2.1 voltage-dependent K⁽⁺⁾ channels in neuroendocrine islet beta-cells through an interaction with the channel n terminus. Molecular Endocrinology, 16(11), 2454-2461. IF:6.725, 5/90 Endocrinology & Metabolism, (90 citations).
23. Michaelievski I, Chikvashvili D, **Tsuk S**, Fili O, Lohse MJ, Singer-Lahat D, Lotan I. 2002. Modulation of a brain voltage-gated K⁺ channel by syntaxin 1a requires the physical interaction

of Gbetagamma with the channel. Journal of Biological Chemistry, 277(38), 34909-34917. IF: 6.696, 27/266 Biochemistry & Molecular Biology, (38 citations).

24. Ji J, **Tsuk S***, Salapatek AM, Huang X, Chikvashvili D, Pasyk EA, Kang Y, Sheu L, Tsushima R, Diamant N, Trimble WS, Lotan I, Gaisano HY. 2002. The 25-kda synaptosome-associated protein (snap-25) binds and inhibits delayed rectifier potassium channels in secretory cells. Journal of Biological Chemistry, 277(23), 20195-20204. IF: 6.696, 27/266 Biochemistry & Molecular Biology, (58 citations).

* Equal contribution

Papers Under Submission for Publication

1. **Sharon Tsuk**, Guy Weiss, Roe Amedi, Rafi Carasso, and Arie Rotstein. The effect of transcutaneous median nerve stimulation on heart rate variability in healthy young adults. Sent to Journal of electrocardiology.
2. **Sharon Tsuk**, Sima Zach, Omer Glixman, Einat Avieli, and Aviva Mimouni-Bloch. Inconsistencies in Health Behavior and Attitudes of Physical Education Student Teachers – Focus on Stimulant Treatment for ADHD. Sent to Substance use & misuse.

Studies Under Collection

1. The efficiency of a unique belt to improve walking performance in a post stroke patient with hemiplegia”. This study will be performed at the Rehabilitation Center, Academic College at Wingate.
2. “The effects of a single dose of methylphenidate on motor performance”. This research is in collaboration with Aviva Mimouni-Bloch, head of the Rehabilitation Center, Loewenstein Hospital, Israel, and Sima Zach of the Wingate Academic College. We also evaluated the use of methylphenidate among physical education students at Wingate, compared to non-physical education students from other colleges. This study is under final correction before being submitted for publication.
3. “Efficiency and safety of early cardiac rehabilitation in low-risk myocardial infarction patients”. This research is in collaboration with Assaf Harofeh Hospital, Israel.

SERVE AS A REVIEWER FOR ACADEMIC JOURNALS

1. April 2024- BMC Sports Science, Medicine and Rehabilitation
2. April 2024- Scientific Reports
3. July 2022- PLOS ONE
4. May 2022- Sports Medicine Open
5. November 2021- International Journal of Women's Health
6. August 2021- Journal of herbal medicine
7. August 2021- International Journal of Mental Health Promotion