



## BioSketch - Nachum Soroker - February 11, 2022

Nachum Soroker, M.D., studied medicine at the Hebrew University, Hadassah Medical School, Jerusalem, Israel, and specialized in Physical and Rehabilitation Medicine at the Loewenstein Rehabilitation Hospital, Raanana, Israel.

Current position: Head, Brain Rehab Lab, Department of Neurologic Rehabilitation, Loewenstein Rehabilitation Medical Center, Raanana, Israel. Past positions include: Head, Department of Rehabilitation Medicine, Faculty of Medicine, Tel-Aviv University; President of the Israel Association of PRM (IAPRM); Head, Department of Neurologic Rehabilitation, Loewenstein Hospital.

Past positions in the International Society of PRM (ISPRM) include: Chair of the Scientific Committee in the 2<sup>nd</sup> ISPRM World Congress; Regional ISPRM Vice President; Member of ISPRM Executive Board; Chair of ISPRM Website; member of ISPRM Finance, Publications and Clinical Research Committees.

In 2017 NS received from the ISPRM the **Sidney Licht Award** “for outstanding accomplishments in advancing the care of individuals with disabilities and consistent contributions to the advancement of Physical and Rehabilitation Medicine internationally and for his leadership within ISPRM”.

NS acted as chair/member of the organizing/scientific committees of various national and international PRM congresses. Late roles – Chair of the Scientific Committee - Didactic Track, in the Annual Congress of the Israeli Association of PRM (IAPRM) - 2016, 2017, 2018, 2019, 2020, 2021.

NS edited one book and wrote 8 chapters in books. He published so far 101 original research articles and 3 case studies in peer-reviewed journals, in addition to 2 review papers and 15 other publications. 40 additional papers were published in short form in conference proceedings or journals. He had 362 presentations made at scientific meetings, many of them as invited lecturer.

### Selected publications:

#### Books:

**N. Soroker**, H. Ring (Eds.): *Advances in Physical and Rehabilitation Medicine*. Monduzzi, Bologna, 2003.

#### Selected basic-science papers:

Sapir A, Soroker N, Berger A, Henik A. Inhibition of return in spatial attention: direct evidence for collicular generation. *Nature Neuroscience*, 1999; 2:1053-1054.

Deouell LY, Bentin S, Soroker N. Electrophysiological evidence for early (pre-attentive) information processing deficit in patients with right hemisphere damage and unilateral neglect. *Brain*, 2000; 123:353-365.

Kaufman A, Serfaty C, Deouell L, Rupin E, [Soroker N](#). Multi perturbation analysis of distributed neural networks: the case of spatial neglect. *Human Brain Mapping*, 2009, 30: 3687-3695.

Sela L, Sacher Y, Serfaty C, [Soroker N](#), Sobel N. Spared and impaired olfactory abilities following thalamic lesions. *J Neuroscience*, 2009, 29 (39):12059-12069.

Kahana-Zweig R, Geva-Sagiv M, Weissbrod A, Secundo L, [Soroker N](#), Sobel N. Measuring and Characterizing the Human Nasal Cycle. *PLoS ONE*, 2016, October 6; pp 1-28.

Pirondini E, Goldshuv-Ezra N, Zinger N, Britz J, [Soroker N](#), Deouell LY, Van De Ville D. Resting-state EEG topographies: reliable and sensitive biomarkers of spatial neglect. *NeuroImage Clinical*, 2020, 5;26:102237.

Cohen-Dallal H, [Soroker N](#), Pertzov Y. Working memory in unilateral spatial neglect: evidence for impaired binding of object identity and object location data. *Journal of Cognitive Neuroscience*, 2021, 33:46-62.

Ben-Zvi S, [Soroker N](#), Levy DA. Neuropsychological evidence for dissociable neurocognitive processes underlying episodic recognition of unfamiliar faces. *Neuropsychologia*, 2021, 10;163:108078.

Cohen-Dalal H, Rahamim-Elyakim N, [Soroker N](#), Pertzov Y. Verbal tagging can impair memory of object location: Evidence from aphasia. *Neuropsychologia*, 2022, Accepted for publication 14.1.22

### **Selected recent clinical papers:**

Plotkin A, Sela L, Weisbrod A, Kahana R, Yeshurun Y, [Soroker N](#), Sobel N. Nasal sniffing enables communication and environmental control for the severely disabled. *Proceedings of the National Academy of Sciences (USA) - PNAS*, 2010, 107(32):14413-14418.

Frenkel-Toledo S, Bentin S, Liebermann DG, [Soroker N](#). Dynamics of the EEG power in the frequency and spatial domains during observation and execution of manual movements. *Brain Research*, 2013, 1509:43-57.

Oren N, [Soroker N](#), Deouell LY. Immediate effects of exposure to positive and negative emotional stimuli on visual search characteristics in patients with unilateral neglect. *Neuropsychologia*, 2013, 51(13):2729-39.

Frenkel-Toledo S, Bentin S, Perry A, Liebermann DG, [Soroker N](#). Mirror neuron system recruitment by action observation: Effects of brain damage on mu suppression. *NeuroImage*, 2013, 87:127-137.

Moreh E, Seidel-Malkinson T, Zohary E, [Soroker N](#). Visual memory in unilateral spatial neglect: Immediate recall vs. delayed recognition. *Journal of Cognitive Neuroscience*, 2014, 26:2155-2170.

Pavlovskaya M, [Soroker N](#), Bonne Y, Hochstein S. Computing an average when part of the population is not perceived. *Journal of Cognitive Neuroscience*, 2015, 27:7 1397-1411.

Bartur G, Pratt H, Dikstein R, Frenkel-Toledo S, [Soroker N](#). Electrophysiological manifestations of mirror visual feedback during manual movement. *Brain Research*, 2015, 1606:113-124.

Ben-Zvi S, [Soroker N](#), Levy DA. Parietal lesion effects on cued recall following pair associate learning. *Neuropsychologia*, 2015, 73:176-194.

Hochstein S, Pavlovskaya M, Bonne Y, [Soroker N](#). Global statistics are not neglected. *Journal of Vision*, 2015, 15(4):7, 1-17.

Frenkel-Toledo S, Liebermann DG, Bentin S, [Soroker N](#). Dysfunction in the human mirror neuron system in parietal apraxia: evidence from mu suppression. *Journal of Cognitive Neuroscience*, 2016, 28:775-91.

Bartur G, Pratt H, Frenkel-Toledo S, Soroker N. Neurophysiological effects of mirror visual feedback in stroke patients with unilateral hemispheric damage. *Brain Research*, 2018, 1700:170-180.

Hochstein S, Pavlovskaya M, Bonneh Y, Soroker N. Comparing set summary statistics and outlier pop out in vision. *Journal of Vision*, 2018, 18(13):12, 1–13.

Handelzalts S, Kanner-Furman M, Gray G, Soroker N, Melzer I. Effects of perturbation-based balance training in persons with stroke: A randomized controlled trial. *NeuroRehabilitation and Neural Repair*, 2019, 33:213-224.

Handelzalts S, Melzer I, Soroker N. Analysis of lesion impact on balance and gait following Stroke. *Frontiers in Human Neuroscience*, 2019, May 19, doi: 10.3389/fnhum.2019.00149

Handelzalts S, Steinberg-Henn F, Shani G, Soroker N, Melzer I. Insufficient balance recovery following unannounced external perturbations in persons with stroke. *NeuroRehabilitation and Neural Repair*, 2019, 33(9):730-739.

Bartur G, Pratt H, Dickstein R, Soroker N. Changes in mu and beta amplitude of the EEG during upper limb movement correlate with motor impairment and structural damage in subacute stroke. *Clin Neurophysiol*, 2019, 130:1644–1651.

Frenkel-Toledo S, Friedberg G, Ofir S, Bartur G, Raz J, Granot O, Handelzalts S, Soroker N. Lesion location impact on functional recovery of the hemiparetic upper limb. *PLoS ONE*, 2019, 14(7): e0219738.

Frenkel-Toledo S, Ofir-Geva S, Soroker N. Lesion topography impact on shoulder abduction and finger extension - clinical predictors of hemiparetic upper limb function. *Frontiers in Human Neuroscience*, 2020, 14:282.

Handelzalts S, Chen-Steinberg F, Soroker N, Shani G, Melzer I. Characteristics of upper extremity reactions to sudden lateral loss of balance in persons with stroke. *Clinical Biomechanics*, 2021, 82:105255.

Frenkel-Toledo S, Ofir-Geva S, Mansano L, Granot S, Soroker N. Stroke Lesion Impact on Lower Limb Function and Gait. *Frontiers in Human Neuroscience*, 2021, 15:592975.

Frenkel-Toledo S, Solomon JM, Shah A, Baniña MC, Berman S, Soroker N, Liebermann DG, Levin MF. Tonic stretch reflex threshold as a measure of spasticity after stroke: inter-rater reliability, minimal detectable change and responsiveness. *Clinical Neurophysiology*, 2021, 132:1226–1233.

Ofir-Geva S, Serfaty C, Sacher Y, Soroker N. Unilateral spatial neglect without hemiplegia: the output-mode effect revisited. *Journal of Stroke and Cerebrovascular Diseases*, 2021, 30 (7): 105777

Lackritz H, Parmet Y, Frenkel-Toledo S, Banina M, Soroker N, Solomon J, Liebermann DG, Levin ML, Berman S. Quantifying the effects of spasticity following stroke on voluntary motor control using stochastic measures. *J Neuroeng Rehabil*, 2021, 13;18:81.

Handelzalts S, Steinberg-Henn F, Farquhar J, Shkedy A, Levy S, Riemer R, Soroker N, Melzer I. Temporal but not spatial gait parameters associate with lower balance capacity in moderate-high functioning persons with stroke. *J Neurologic Physical Therapy*, 2021, 45: 301-309.

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