November 2016 News **PLEASE FORWARD TO YOUR COLLEAGUES** **www.wikistim.org**

If you are reading this newsletter for the first time, please visit the ABOUT section on the WIKISTIM home page. This section describes WIKISTIM's unique resources and is accessible without registration.

DONATIONS WELCOME

This is the time of year when many people review their annual charitable donations. We offer WIKISTIM free of cost and depend upon donations and grants for our continued existence. Because WIKISTIM's parent, the Neuromodulation Foundation, is a 501c(3) charitable organization, all donations are 100% deductible for those who file US income tax and itemize. You have indicated your interest in WIKISTIM by registering, and you understand what we are achieving and hope to achieve in the future with your support. Click here for ways to donate!

RECENT DONATIONS

We are grateful to Dr. Todd Sitzman for his individual donation to WIKISTIM and to NEVRO for its recent grant award. Dr. Sitzman has told us that he finds WIKISTIM extremely helpful in his clinical practice, and a NEVRO employee is among our most faithful contributors! We appreciate both the financial support and the encouragement we receive from Dr. Sitzman and NEVRO.
We need additional sources of funding, however, to continue to offer WIKISTIM free of charge, and we are in the process of applying for additional grants. If you work for a company that offers grants, please take the time to let the appropriate movers and shakers know that you find WIKISTIM useful and are eager to see it continue to grow and become even more useful.

NEW SECTION EDITOR APPOINTED

We are pleased to announce that Dr. Richard Weiner has volunteered to be Section Editor for Peripheral Nerve Stimulation (Wireless). We expect wireless technology to have a huge impact in peripheral nerve stimulation, which is an area in which Dr. Weiner is an acknowledged expert. Our efforts in PNS have largely been confined to peripheral nerve field stimulation, and we look forward to further developing this section of WIKISTIM.

CURRENT STATUS

November numbers (see the appendix for the list of new citations.)

- 391 subscribers
- DBS citations 2500
- DRG citations 40
- GES citations 469
- PNS citations 47
- SCS citations 1967
- SNS citations 799

NIH Podcast on WIKIDATA

A friend at the FDA alerted us to a podcast of a September lecture (just over an hour in duration) given under the auspices of the NIH Frontiers in Data Science program. The lecture/podcast entitled, "WIKIDATA: Verifiable, Linked Open Knowledge that Anyone Can Edit" was given by Dario Taraborelli, PhD, of the WIKIMEDIA Foundation. and can be found here:
https://videocast.nih.gov/summary.asp?live=19938&bhcp=1WIKIDATA
The slides accompanying the talk can be downloaded from this URL:
https://figshare.com/articles/Wikidata_Verifiable_Linked_Open_Knowledge_That_Anyone_Can_Edit/3850821

The WIKIDATA initiative was launched in 2012 and now has 7,000 active editors (or "curators"). As you will see if you access the podcast and/or the slides, Dr. Taraborelli notes that an "unintended outcome" of WIKIPEDIA has been the creation of an infrastructure for "open scientific research" and that "strong evidence" exists that WIKIPEDIA is the most accessed online medical resource.

WIKIDATA content is added through sematic machine searches or through human agency and is curated by humans as well as algorithms. In contrast, WIKISTIM depends on human entry/curation.

WIKIDATA, apparently, makes reams of scientific data available, and, as with WIKIPEDIA in general, the project emphasizes citation. We were curious to see how our field is represented in WIKIDATA, so we searched wikidata.org for "spinal cord stimulation," clicked on "everything," and got 21 results, 16 of which were "content pages." These included only 11 distinct citations (after accounting for duplicates). DBS fared better with 45 citations (that we didn't examine for duplication). GES, on the other hand, had only 2, DRG had none, SNS had 2 distinct entries in a list of four, and PNS had 2 (one was occipital stimulation). We will contact Dr. Taraborelli to see how we can link WIKISTIM to WIKIDATA to improve this situation.

If you view the talk, you might find the following definitions helpful:

- The DBpedia database results from the crowd-sourced extraction of structured information from Wikipedia. DBpedia allows users to make sophisticated queries of Wikipedia and to link various data sets available on the Internet to Wikipedia data.
- DOI lookups = searches using the Digital Object Identifier, which is an object's Internet address
- API parser (Application Program Interface)
- Author with an ORCID = someone with an "open researcher and contributor ID"
- RDF = Resource Description Framework, a key component of linked data (See: http://linkeddata.org/faq)
- SPQRQL = Simple Protocol and RDF Query Language, which is used to retrieve and manipulate data for the web of linked data.

WORTH REPEATING

How to Acknowledge WIKISTIM in Publications and Presentations

WIKISTIM should be cited (www.wikistim.org) whenever it is has contributed significantly to a search for a review article or to the information in a discussion section in an article reporting primary data.

Add WIKISTIM Contributions to Your CV

When you complete a WIKISTIM datasheet, remember to add a line in your CV indicating that you are a WIKISTIM guest editor and to apply for your CME credits.

WIKISTIM Is Not Our Only Website

Our neuromodfound.org website presents the "Practice Parameters for the Use of Spinal Cord Stimulation in the Treatment of Chronic Neuropathic Pain," organized as a series of questions and answers covering most aspects of SCS therapy, along with a curated bibliography sorted by topic. We first published these practice parameters as a special supplement to Pain Medicine in 2007 (http://www.ncbi.nlm.nih.gov/pubmed/17995571) and created the website soon thereafter.

While we have devoted attention to the development of WIKISTIM, neuromodfound.org has been awaiting our attention, and interesting things have been happening in the SCS universe, including the investigation of the impact of using novel waveforms. We are in the process of updating the SCS site and creating stronger links between it and WIKISTIM. We invite you to take a look and email any suggestions you might have for its improvement.

How the Neurostimulation Community Can Help

- Submit extracted data from published reports of your choice, or use our datasheets as a guide when you plan your study and write your paper, and then submit the datasheet to us upon journal acceptance.
- Notify us about any reports we might have missed that contain primary data on SCS, SNS, DRG, PNS, GES, DBS/OCD, DBS/Epilepsy, or reports you would like to see added for DBS/PD.
- Suggest website improvements.

FINANCIAL SUPPORT TO DATE FOR 2016

- B. Todd Sitzman, MD, MPH
- NEVRO
- Richard B. North, MD
- The NANS Foundation, now the Institute of Neuromodulation (3-year grant commitment started 2014)

Ongoing in-kind support:

- The International Neuromodulation Society (publicity and conference registration)
- The Neuromodulation Foundation (parent non-profit, overhead and development)
- The North American Neuromodulation Society (publicity and conference registration)

Jonathan Young, MD, Noninvasive Brain Stimulation
To be determined, Vagus Nerve Stimulation

Managing editor
Jane Shipley

Disclosure
WIKISTIM includes citations for indications that are or might be considered off-label in the United States.

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APPENDIX: Citations of new papers that report primary data added November 1, 2016

DBS Depression (adding to our comprehensive list)

1. Kibleur A, Polosan M, Favre P, Rudrauf D, Bougerol T, Chabardès S, David O. Stimulation of subgenual cingulate area decreases limbic top-down effect on ventral visual stream: a DBS-EEG pilot study. Neuroimage 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27743900
2. Torres-Sanchez S, Perez-Caballero L, Berrocoso E. Cellular and molecular mechanisms triggered by deep brain stimulation in depression: a preclinical and clinical approach. Prog Neuropsychopharmacol Biol Psychiatry 2016 73:1-10 http://www.ncbi.nlm.nih.gov/pubmed/27644164

DBS Epilepsy (adding to our comprehensive list)

1. So RQ, Krishna V, King NK, Yang H, Zhang Z, Sammartino F, Lozano AM, Wennberg RA, Guan C. Prediction and detection of seizures from simultaneous thalamic and scalp electroencephalography recordings. J Neurosurg 2016 epub:1-9 http://www.ncbi.nlm.nih.gov/pubmed/27715438
2. Son BC, Shon YM, Kim SH, Choi JG, Kim J. Relationship between postoperative EEG driving response and lead location in deep brain stimulation of the anterior nucleus of the thalamus for refractory epilepsy. Stereotact Funct Neurosurg 2016 94(5):336-341 http://www.ncbi.nlm.nih.gov/pubmed/27723660

DBS OCD (adding to our comprehensive list)

1. Doshi PK. Mania induced by stimulation following DBS of the bed nucleus of stria terminalis for obsessive-compulsive disorder. Stereotact Funct Neurosurg 2016 94(5):326 http://www.ncbi.nlm.nih.gov/pubmed/27723661

DBS PD & Miscellaneous (we only list recent publications here even though we continue to add older citations to the database)

1. Atkinson-Clement C, Maillet A, LeBars D, Lavenne F, Redouté J, Krainik A, Pollak P, Thobois S, Pinto S. Subthalamic nucleus stimulation effects on single and combined task performance in Parkinson's disease patients: a PET study. Brain Imaging Behav 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27704407

2. Bick SK, Folley BS, Mayer JS, Park S, Charles PD, Camalier CR, Pallavaram S, Konrad PE, Neimat JS. Subthalamic nucleus deep brain stimulation alters prefrontal correlates of emotion induction. Neuromodulation 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27730703
3. Casula EP, Stampanoni Bassi M, Pellicciari MC, Ponzo V, Veniero D, Peppe A, Brusa L, Stanzione P, Caltagirone C, Stefani A, Koch G. Subthalamic stimulation and levodopa modulate cortical reactivity in Parkinson's patients. Parkinsonism Relat Disord 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27771287
4. Dewey RB 3rd, O'Suilleabhain PE, Sanghera M, Patel N, Khemani P, Lacritz LH, Chitnis S, Whitworth LA, Dewey RB Jr. Developing a deep brain stimulation neuromodulation network for Parkinson disease, essential tremor, and dystonia: report of a quality improvement project. PLoS One 2016 11(10):e0164154bhttp://www.ncbi.nlm.nih.gov/pubmed/27711133
5. Jimenez-Shahed J, Telkes I, Viswanathan A, Ince NF. GPi oscillatory activity differentiates tics from the resting state, voluntary movements, and the unmedicated parkinsonian state. Front Neurosci 2016 10:436 http://www.ncbi.nlm.nih.gov/pubmed/27733815
6. Li X, Zhuang P, Hallett M, Zhang Y, Li J, Li Y. Subthalamic oscillatory activity in parkinsonian patients with off-period dystonia. Acta Neurol Scand 2016 134(5):327-338 http://www.ncbi.nlm.nih.gov/pubmed/27696368
7. Merola A, Romagnolo A, Rizzi L, Rizzone MG, Zibetti M, Lanotte M, Mandybur G, Duker AP, Espay AJ, Lopiano L. Impulse control behaviors and subthalamic deep brain stimulation in Parkinson disease. J Neurol 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27761641
8. Pal GD, Hall D, Ouyang B, Phelps J, Alcalay R, Pauciulo MW, Nichols WC, Clark L, Mejia-Santana H, Blasucci L, Goetz CG, Comella C, Colcher A, Gan-Or Z, Rouleau GA, Marder K; Consortium on Risk for Early Onset Parkinson's Disease (CORE-PD) Investigators. Genetic and clinical predictors of deep brain stimulation in young-pnset Parkinson's disease. Mov Disord Clin Pract 2016 3(5):465-471 http://www.ncbi.nlm.nih.gov/pubmed/27709117
9. Talakoub O, Neagu B, Udupa K, Tsang E, Chen R, Popovic MR, Wong W. Time-course of coherence in the human basal ganglia during voluntary movements. Sci Rep 2016 6:34930 http://www.ncbi.nlm.nih.gov/pubmed/27725721
10. Valsky D, Marmor-Levin O, Deffains M, Eitan R, Blackwell KT, Bergman H, Israel Z. Stop! border ahead: automatic detection of subthalamic exit during deep brain stimulation surgery. Mov Disord 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27709666
11. Wang X, Wang J, Zhao H, Li N, Ge S, Chen L, Li J, Jing J, Su M, Zheng Z, Zhang J, Gao G, Wang X. Clinical analysis and treatment of symptomatic intracranial hemorrhage after deep brain stimulation surgery. Br J Neurosurg 2016 epub:1-6 http://www.ncbi.nlm.nih.gov/pubmed/27760466
12. Wang Y, Liu H, Li P, Wang W. Deep brain stimulation could cause delayed and recurrent cerebral ischemia: a case report. Acta Neurochir (Wien) 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27744548
13. Yamamoto T, Fukaya C, Obuchi T, Watanabe M, Ohta T, Kobayashi K, Oshima H, Yoshino A. Glioblastoma multiforme developed during chronic deep brain stimulation for Parkinson disease. Stereotact Funct Neurosurg 2016 94(5):320-325 http://www.ncbi.nlm.nih.gov/pubmed/ 27723655
14. Zwirner J, Möbius D, Bechmann I, Arendt T, Hoffmann KT, Jäger C, Lobsien D, Möbius R, Planitzer U, Winkler D, Morawski M, Hammer N. Subthalamic nucleus volumes are highly consistent but decrease age-dependently-a combined magnetic resonance imaging and stereology approach in humans. Hum Brain Mapp 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27726278

DRG (updating our comprehensive list)

1. Pan B, Yu H, Fischer GJ, Kramer JM, Hogan QH. Dorsal root ganglionic field stimulation relieves both spontaneous and induced neuropathic pain in rats. J Pain 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27687223

GES (updating our comprehensive list)

1. Stocker A, Abell TL, Rashed H, Kedar A, Boatright B, Chen J. Autonomic evaluation of patients with gastroparesis and neurostimulation: comparisons of direct/systemic and indirect/cardiac measures. Gastroenterology Res 2016 9(1):10-16 http://www.ncbi.nlm.nih.gov/pubmed/27785318

SCS (updating our comprehensive list)

1. Choi JG, Ha SW, Son BC. Comparison of clinical efficacy and computed tomographic analysis of lead position between three-column and five-column paddle leads spinal cord stimulation for failed back surgery syndrome. World Neurosurg 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27744081
2. Crosby ND, Janik JJ, Grill WM. Modulation of activity and conduction in single dorsal column axons by kilohertz-frequency spinal cord stimulation. J Neurophysiol 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27760823
3. Deletis V, Kothbauer KF, Sala F, Seidel K. Electrical activity in limb muscles after spinal cord stimulation is not specific for the corticospinal tract [letter]. J Neurosurg Spine 2016 epub 1-2 http://www.ncbi.nlm.nih.gov/pubmed/27689423
4. Huang R, Baca SM, Worrell JW, Liu X, Seo Y, Leiter JC, Lu DC. Modulation of respiratory output by cervical epidural stimulation in the anesthetized mouse. J Appl Physiol (1985) 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27763875
5. Kissoon NR, Hoelzer BC, Martin DP, Lamer TJ. High-frequency spinal cord stimulation in a patient with an implanted cardiac device. Pain Pract 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27770599
6. Kleiber JC, Marlier B, Bannwarth M, Theret E, Peruzzi P, Litre F. Is spinal cord stimulation safe? A review of 13 years of implantations and complications. Rev Neurol (Paris) 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27776893
7. Kriek N, Groeneweg JG, Stronks DL, de Ridder D, Huygen FJ. Preferred frequencies and waveforms for spinal cord stimulation in patients with complex regional pain syndrome: a multicentre, double-blind, randomized and placebo-controlled crossover trial. Eur J Pain 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27714945
8. Moshonkina TR, Shapkova EY, Sukhotina IA, Emeljannikov DV, Gerasimenko YP. Effect of combination of non-invasive spinal cord electrical stimulation and serotonin receptor activation in patients with chronic spinal cord lesion. Bull Exp Biol Med 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27785645
9. Muncie LM, Ellens NR, Tolod-Kemp E, Feler CA, Winestone JS. Intraoperative electrophysiological monitoring for C1-2 spinal cord stimulation. J Neurosurg Spine 2016 epub:1-7 http://www.ncbi.nlm.nih.gov/pubmed/27689422
10. Murphy KR, Han JL, Hussaini SM, Yang S, Parente B, Xie J, Lad SP. The volume-outcome effect: impact on trial-to-permanent conversion rates in spinal cord stimulation. Neuromodulation 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27696607
11. Possover M. The LION procedure to the pelvic nerves for recovery of locomotion in 18 spinal cord injured peoples - a case series. Surg Technol Int 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27728946
12. Sales PM, de Andrade LM, Pitcher MR, Rola FH, Gondim FA. Levodopa enhances immobility

induced by spinal cord electromagnetic stimulation in rats. Neurosci Lett 2016 633:196-201 http://www.ncbi.nlm.nih.gov/pubmed/27666976
13. Schultz DM, Calodney AK, Mogilner AY, Weaver TW, Wells MD, Stromberg EK, Roediger MP, Konrad PE, Sasaki JT. Spinal cord stimulation (SCS)-the implantable systems performance registry (ISPR). Neuromodulation 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27730706
14. Wille F, Breel JS, Bakker EW, Hollmann MW. Altering conventional to high density spinal cord stimulation: an energy dose-response relationship in neuropathic pain therapy. Neuromodulation 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27778413
15. Wilson S, Abode-Iyamah KO, Miller JW, Reddy CG, Safayi S, Fredericks DC, Jeffery ND, DeVries-Watson NA, Shivapour SK, Viljoen S, Dalm BD, Gibson-Corley KN, Johnson MD, Gillies GT, Howard MA 3rd. An ovine model of spinal cord injury. J Spinal Cord Med 2016 epub:1-15 http://www.ncbi.nlm.nih.gov/pubmed/27759502

SNS (updating our comprehensive list)

1. Amundsen CL, Richter HE, Menefee SA, Komesu YM, Arya LA, Gregory WT, Myers DL, Zyczynski HM, Vasavada S, Nolen TL, Wallace D, Meikle SF. OnabotulinumtoxinA vs sacral neuromodulation on refractory urgency urinary incontinence in women: a randomized clinical trial. JAMA 2016 316(13):1366-1374 http://www.ncbi.nlm.nih.gov/pubmed/27701661
2. Banakhar M, Hassouna M. Percutaneous nerve evaluation test versus staged test trials for sacral neuromodulation: sensitivity, specificity, and predictive values of each technique. Int Neurourol J 2016 20(3):250-254 http://www.ncbi.nlm.nih.gov/pubmed/27706006
3. Bandari J, Bansal U, Zhang Z, Shen B, Wang J, Lamm V, Chang V, Roppolo JR, de Groat WC, Tai C. Neurotransmitter mechanisms underlying sacral neuromodulation of bladder overactivity in cats. Neuromodulation 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27730701
4. Foditsch EE, Zimmermann R. Development of a CT-guided standard approach for tined lead implantation at the sacral nerve root S3 in minipigs for chronic neuromodulation. Res Rep Urol 2016 8:169-173 http://www.ncbi.nlm.nih.gov/pubmed/27730097
5. Gahzi AA, Elterman DS, Hassouna M. Sacral neuromodulation in patients with a cardiac pacemaker. Int Neurourol J 2016 20(3):270-272 http://www.ncbi.nlm.nih.gov/pubmed/27706012
6. Haas S, Brock C, Krogh K, Gram M, Lundby L, Drewes AM, Laurberg S. Does sacral nerve stimulation improve continence through enhanced sensitivity of the anal canal? A pilot study. Dis Colon Rectum 2016 59(11):1039-1046 http://www.ncbi.nlm.nih.gov/pubmed/27749479
7. Jiang X, Fuller TW, Bandari J, Bansal U, Zhang Z, Shen B, Wang J, Roppolo JR, de Groat WC, Tai C. Contribution of GABAA, glycine, and opioid receptors to sacral neuromodulation of bladder overactivity in cats. J Pharmacol Exp Ther 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27729478
8. Krebs J, Wöllner J, Grasmücke D, Pannek J. Long-term course of sacral anterior root stimulation in spinal cord injured individuals: the fate of the detrusor. Neurourol Urodyn 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27778371
9. Sterling ME, Hartigan SM, Wein AJ, Smith AL. A standardized surgical technique for removal of the Interstim tined lead. Can J Urol 2016 23(5):8471-8475 http://www.ncbi.nlm.nih.gov/pubmed/27705733
10. Zerbib F, Siproudhis L, Lehur PA, Germain C, Mion F, Leroi AM, Coffin B, Le Sidaner A, Vitton V, Bouyssou-Cellier C, Chene G; CONSTIMOD study investigators. Randomized clinical trial of sacral nerve stimulation for refractory constipation. Br J Surg 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27779312
11. Zerhau P, Mackerle Z, Husár M, Sochůrková D, Brichtová E, Gopfert E, Faldyna M, Kubát M, Plánka L. Experimental electrophysiological and pressure responses of urinary bladder

detrusor to lumbar to sacral nerve rerouting - an animal study with negative results. Urol Int 2016 epub http://www.ncbi.nlm.nih.gov/pubmed/27788509