



IFESS

NEWSLETTER

Through the “IFESS Newsletter”, we aim to share important information about the **International Functional Electrical Stimulation Society** and also to provide a space where each member can communicate important news or information to our community.

Welcome on board and enjoy!

IFESS members can contribute by sending a message to christine.azevedo@inria.fr (150 words max).

Issue 08 – August 2020

NEWS FROM IFESS

🕒 News from IFESS board

Dear Members,

The IFESS executive board have been monitoring the global COVID-19 pandemic in the last few months. Together with Dejan Popovic and Marinko Rade, the organizers of the 24th IFESS conference, we have decided to **reschedule our next meeting for the same venue, with new dates set for June 9 – 13, 2021 in Rovinj, Croatia**. Further information will be shared over the next few months. In this period, the executive board have completely renewed our website (<https://ifess.org/>), a very important step in the process of rebranding our society. We changed our logo, and we are now working hard to further update the website with interesting useful content for all people interested in FES. Be sure to take a look at our new podcasts page (<https://ifess.org/podcasts>). I hope you like it. If you are interested in being interviewed for a podcast to have your work featured on the website please get in touch (office@ifess.org). We would love to hear from you.

The executive board is now working in 4 working groups that are completely aligned to the IFESS mission:

1. **Promotion:** aimed at enhancing the profile of IFESS among other groups for example by becoming part of RehabWeek, and with a view to having a presence in other conferences.
2. **Education:** focused on updating the educational material on the website to make it useful and relevant to:
 - Patients interested in finding out if FES can benefit them;
 - Clinicians already using FES in their clinics or interested in finding out more;
 - Researchers and engineers interested in resources and collaboration;
 - Students interested in a career in FES.
3. **Development:** aimed at developing benefits to IFESS membership as a means to support you in whatever aspect of FES work that you do.
4. **Communication:** aimed at increasing IFESS visibility to promote and support our members work.

If you would like to join any of these working groups and help us in the IFESS rebranding process, feel free to contact us (office@ifess.org), I will be happy to give all the details you may need.

I'm proud to announce to you that the executive board are currently organizing **autumn webinars**. We would like to hear from you if you have a hot topic for a webinar. Send an abstract of your proposed webinar, no more than 200 words, with 'hot topics IFESS webinar' in the title (office@ifess.org).

Remember to **renew your membership** in the members corner soon so you can take advantage of the new IFESS webinars with all the latest FES research and developments from around the world. **IFESS Webinars are free to IFESS members.**

I wish you a relaxing (albeit slightly unusual) summer-time. I'm looking forward to virtually meeting you stronger and more proactive than ever.

Kind regards,
Simona Ferrante - IFESS president

MEMBER'S CORNER

🕒 **Lyon Cyber Days (4-5th September 2020, Lyon, France)** ANTS association and ENS de Lyon (France) organize the 3rd edition of the yearly conference, Lyon Cyber Days, a science and sports event focusing on technology serving the disabled, that will be held on Friday 4 and Saturday 5 September 2020, in Lyon, France. The first day will be dedicated to scientific conferences, whereas the second day will be focused on demonstrations, workshops and the much-awaited friendly FES cycling race: <https://ants-asso.com/en/lyon-cyber-days-en>

🕒 **CYBATHLON 2020 (Symposium and event)** In view of the current national and international situation it has been decided not to proceed with the CYBATHLON 2020 in its original format. The Symposium will take place on 17-18 September 2020 – in a new virtual format and the new global format for the event, including FES-bike race will be announced soon: <https://cyathlon.ethz.ch>

🕒 **IFESS UK and Ireland Chapter Updates** Social distancing has made it difficult to organise any FES CPD conferences or workshop days. The IFESS UK and Ireland Chapter are interested in organising an online FES research seminar. If interested in attending please follow: <https://www.surveymonkey.co.uk/r/IFESSSeminar>
New NICE Guidelines: Electrical stimulation to improve muscle strength in chronic respiratory conditions, chronic heart failure and chronic kidney disease [IPG677] Publication Date: 05 August 2020. NICE has recommended that the technique can be used with people who are having an acute exacerbation of their chronic condition and are unable to exercise. NICE found the evidence of efficacy as adequate to support the use of this procedure provided that standard arrangements are in place for clinical governance, consent and audit. The full recommendations can be found here: <https://www.nice.org.uk/guidance/ipg677> .

SELECTION OF RECENT PUBLICATIONS

There have been a number of interesting recent publications despite the lockdown. We've put together a small collection of some of the ones that caught our interest. We hope that they might be relevant to your work, stimulate new ideas and maybe even lead to further collaborations. We encourage you to get in contact with the authors of papers if you're interested in finding out more about their research.

🕒 **Upper limb methods paper in stroke and SCI useful for clinicians**

Kapadia, Naaz & Moineau, Bastien & Popovic, Milos. (2020). Functional Electrical Stimulation Therapy for Retraining Reaching and Grasping After Spinal Cord Injury and Stroke. *Frontiers in Neuroscience*. 14. 718. <https://doi.org/10.3389/fnins.2020.00718>

🕒 **Neurogenesis latest developments**

Sefton, E., Iwasa, S. N., Morrison, T., Naguib, H. E., Popovic, M. R., & Morshead, C. M. (2020). Electric field application in vivo regulates neural precursor cell behaviour in the adult mammalian forebrain. *eNeuro*, ENEURO.0273-20.2020. Advance online publication. <https://doi.org/10.1523/ENEURO.0273-20.2020>

🕒 **Denervated Muscle Review**

Chandrasekaran, S., Davis, J., Bersch, I., Goldberg, G., & Gorgey, A. S. (2020). Electrical stimulation and denervated muscles after spinal cord injury. *Neural regeneration research*, 15(8), 1397–1407. <https://doi.org/10.4103/1673-5374.274326>

🕒 Improvements in tissue viability following long term FES

Albertin, G., Ravara, B., Kern, H., Hofer, C., Loeffler, S., Jurecka, W., Guidolin, D., Rambaldo, A., Porzionato, A., De Caro, R., Zampieri, S., Pond, A., Alaibac, M., & Carraro, U. (2019). Two-years of home based functional electrical stimulation recovers epidermis from atrophy and flattening after years of complete Conus-Cauda Syndrome. *Medicine*, 98(52), e18509. <https://doi.org/10.1097/MD.00000000000018509>

🕒 General review and update of FES

Marquez-Chin, C., & Popovic, M. R. (2020). Functional electrical stimulation therapy for restoration of motor function after spinal cord injury and stroke: a review. *Biomedical engineering online*, 19(1), 34. <https://doi.org/10.1186/s12938-020-00773-4>

🕒 Neuroplasticity: Spinal cord stimulation and FES review and perspectives

Duffell, Lynsey & Donaldson, Nicholas. (2020). A Comparison of FES and SCS for Neuroplastic Recovery After SCI: Historical Perspectives and Future Directions. *Frontiers in Neurology*. 11. <https://doi.org/10.3389/fneur.2020.00607>

🕒 Cycling and muscle synergies in subacute stroke

Ambrosini, Emilia & Parati, Monica & Peri, Elisabetta & De Marchis, Cristiano & Nava, Claudia & Pedrocchi, Alessandra & Ferriero, Giorgio & Ferrante, Simona. (2020). Changes in leg cycling muscle synergies after training augmented by functional electrical stimulation in subacute stroke survivors: a pilot study. *Journal of NeuroEngineering and Rehabilitation*. <https://doi.org/10.1186/s12984-020-00662-w>

🕒 Overnight electrical stimulation appears feasible and may even help with sleep

Smit, Christof & Berenpas, Frank & Groot, Sonja & Stolwijk-Swuste, Janneke & Janssen, Thomas. (2020). Feasibility of overnight electrical stimulation-induced muscle activation in people with a spinal cord injury. A Pilot study. *Spinal Cord Series and Cases*. 6. 5. <https://doi.org/10.1038/s41394-019-0254-0>

🕒 A novel minimalist electrical stimulation method for tetraplegic upper limb function

Tigra, Wafa & Dali, Mélissa & William, Lucie & Fattal, Charles & Gelis, Anthony & Divoux, Jean-Louis & Coulet, Bertrand & Teissier, Jacques & Guiraud, David & Azevedo-Coste, Christine. (2020). Selective neural electrical stimulation restores hand and forearm movements in individuals with complete tetraplegia. *Journal of NeuroEngineering and Rehabilitation*. 17. <https://doi.org/10.1186/s12984-020-00676-4> Video : <https://youtu.be/kPukQ55uoaw>

🕒 Paired associative stimulation for SCI walking

Rodionov, Andrei & Savolainen, Sarianna & Kirveskari, Erika & Mäkelä, Jyrki & Shulga, Anastasia. (2020). Effects of Long-Term Paired Associative Stimulation on Strength of Leg Muscles and Walking in Chronic Tetraplegia: A Proof-of-Concept Pilot Study. *Frontiers in Neurology*. 11. 397. <https://doi.org/10.3389/fneur.2020.00397>

🕒 Swimming with FES of the knee extensors and transcranial electrical spinal stimulation

Wiesener, Constantin & Spieker, Lotta & Axelgaard, Jens & Horton, Rachel & Niedeggen, Andreas & Wenger, Nikolaus & Seel, Thomas & Schauer, Thomas. (2020). Supporting front crawl swimming in paraplegics using electrical stimulation: a feasibility study. *Journal of NeuroEngineering and Rehabilitation*. 17. <https://doi.org/10.1186/s12984-020-00682-6>