

## Call for Contributions

### Note: Onsite and Online Options

In order to accommodate a large number of situations, we are offering the option for either physical presence or virtual participation. We would be delighted if all authors manage to attend in person, but are aware that special circumstances are best handled by having flexible options.

### Submission:

**1. Inform the Chair:** with the Title of your Contribution

**2. Submission URL:**

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=SIGNAL+2020+Special>

Please select Track Preference as **FSS**

### Special track

## FSS: Fractional Signals and Systems

Chair and Coordinator

Prof. Manuel Ortigueira, Center of Technology and Systems of UNINOVA, Caparica, Portugal  
[mdo@fct.unl.pt](mailto:mdo@fct.unl.pt)

along with

**SIGNAL 2020**, The Fifth International Conference on Advances in Signal, Image and Video Processing  
<https://www.aria.org/conferences2020/SIGNAL20.html>  
September 27 - October 01, 2020 - Lisbon, Portugal

The Fractional Calculus (FC), generalisation of the traditional calculus, leads to similar concepts and tools, but with wider applicability. By allowing derivative and integral operations of arbitrary order, it leads to define fractional system characterised for having amplitude Bode diagrams decreasing/increasing non integer multiples of 20dB/dec. We know already that the non-integer order systems can describe dynamical behaviour of materials and processes over vast time and frequency scales with very concise and computable models. The concepts are being extended to the development of filter design methods and signal modelling/identification.

In the last 20 years, FC entered in Signal Processing leading to many practical applications. However, we cannot say that Signal Processing has entered in FC. We believe that a future inter-action between the two fields will benefit both.

The main objective of this track is to put people from both sides discussing and understanding the other side view.

### Topics include, but not limited to:

- Continuous and discrete derivative definitions,
- Fractional systems modeling and identification,
- Filter design,
- Biomedical signal processing: ECG, EEG, Epilepsy, Sleep classification, Spindles, etc.
- Fractional electrical circuits,
- New fractional devices for signal processing.

## **Important Datelines**

- Submission: July 3, 2020
- Notification: July 23, 2020
- Registration: August 2, 2020
- Camera ready: August 2, 2020

## **Contribution Types**

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on [www.iaria.org](http://www.iaria.org)]
- Presentations: slide only [slide-deck posted on [www.iaria.org](http://www.iaria.org)]
- Demos: two pages [posted on [www.iaria.org](http://www.iaria.org)]

## **Paper Format**

- See: <http://www.iaria.org/format.html>
- Before submission, please check and comply with the editorial rules: <http://www.iaria.org/editorialrules.html>

## **Publications**

- Extended versions of selected papers will be published in IARIA Journals: <http://www.iariajournals.org>
- Print proceedings will be available via Curran Associates, Inc.: <http://www.proceedings.com/9769.html>
- Articles will be archived in the free access ThinkMind Digital Library: <http://www.thinkmind.org>

## **Paper Submission**

<https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=SIGNAL+2020+Special>  
Please select Track Preference as **FSS**

## **Registration**

- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at <http://www.iaria.org/registration.html>

## **Contact**

Chair

Manuel Ortigueira: [mdu@fct.unl.pt](mailto:mdu@fct.unl.pt)

Logistics: [steve@iaria.org](mailto:steve@iaria.org)