Postdoctoral Research Associate Position in Massive MIMO

- **One position available**
- **Be valued for your exceptional knowledge and experience in advanced wireless communications or learning**
- **Full-time, 1 year fixed term contract;** 53.000€ **gross salary + possibility of teaching**

Research topic:

The Research Associate will be involved in the design of low-power massive MIMO wireless communication systems in a team of experts of signal processing and information theory for wireless communications.

Expected inputs, in relation with work in progress in the team considering this topic (see [1-3]), concern mainly:

- constructive interferences for improving 1-bit quantized precoders
- learning tools for optimizing directly the precoded sequence with respect to channel characteristics.

[1] Analysis of One-Bit Quantized Precoding for the Multiuser Massive MIMO Downlink,
AK Saxena, I Fijalkow, A.L Swindlehurst,
in IEEE transactions on Signal Processing 65 (17), 4624—4634, September 2017.

[2] Minimum probability-of-error perturbation precoding for the one-bit massive MIMO downlink, Mars 2017,
ICASSP 2017 - 2017 IEEE International Conference on Acoustics, Speech and Signal Processing
(ICASSP) , A. Lee Swindlehurst, A. Saxena, Amine Mezghani, Inbar Fijalkow

[3] Predistortion Techniques for Vector Perturbation Precoding of One-Bit Massive-MIMO,
in Proc ASILOMAR 2017, October 2017, I. Fijalkow, A.L. Swindlehurst,

Scientific context:

The position is situated within the team of Wireless Communications (approximately 27 members) which takes part in the joint research unit **ETIS, UMR 8051** which is common to the University Paris Seine, the University of Cergy-Pontoise, the ENSEA and the CNRS. The post-doc is funded by the INEX Paris Seine.

ETIS Wireless Communications' team is hosted at ENSEA, a Graduate School in Engineering and Computer Science.

The joint research unit ETIS currently counts about 130 researchers, including 54 non-permanent researchers (among which 5 postdoctoral researchers) devoted to Artificial Intelligence & Robotics ; Signal & Telecommunications ; Electronics of Autonomous Systems ; Big Data &

Multimedia Indexing ; and Data Learning.

Scientific requests :

The potential candidate must have a PhD in signal processing or information theory or wireless communications, with publications in at least one of these areas. He/she should want to increase his/her skills in optimization or learning.

Job offer and scientific contact:

The position is a one year fixed term contract to start during the spring 2018.

53.000€ annual gross salary + possibility of teaching

The job position is conveniently located in Cergy, in the vicinity of Paris (35min by RER A), near students facilities, FabLab, library and shoping area.

Potential applicants should contact **Professor Inbar Fijalkow** by email (inbar.fijalkow@ensea.fr) or by phone (+33 1 30 73 66 10) with the following references:

1. A CV with research interest and a full list of publications

2. A transcript of the PhD degree

3. One or two references